

SPECTRUM[®]

3Com LinkSwitch 1000/3000 Management Module Guide

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Preface

Use this guide as a reference for the 3Com LinkSwitch 1000/3000 management software. Before using this guide, you should be familiar with SPECTRUM's functions and navigational techniques as described in the Administration documentation and the Operation documentation.

For the purposes of this guide, the 3Com LinkSwitch 1000/3000 is referred to as "device."

What Is in This Guide

The organization of the 3Com LinkSwitch 1000/3000 Management Module Guide is as follows:

<u>Chapter</u>	<u>Description</u>
Chapter 1 Introduction	Describes the device, the management module, and model types. This chapter also provides information on accessing device specific views.
Chapter 2 Device Views	Describes the Device views representing the device.
Chapter 3 Configuration Views	Describes the Configuration views for the device and the network management information provided by these views.
Chapter 4 Event and Alarm Messages	Lists and explains the event and alarm messages generated in the Event Log or Alarm Manager for the device.
Chapter 5 Application Views	Describes the Application views and application-specific information for this device.

Conventions

This guide uses the following conventions:

- Menu selections and buttons referenced in text appear in bold; for example, Configuration or Detail.
- Buttons names appear in shadowed boxes when introducing paragraphs describing their use; for example,

Help

- Menu navigation appears in order of selection; for example, Icon Subviews -> Utilities -> Application.
- Referenced chapter titles and section headings appear in italics.
- Referenced documents appear in bold italics.
- The 3Com LinkSwitch 1000/3000 is referred to as “device.”
- References in [blue](#) are hypertext links for online documents.

Related SPECTRUM Documentation

When using this guide, you should have a clear understanding of SPECTRUM functionality and navigational techniques as described in the Administration documentation, the Operation documentation, and the following documentation:

Report Generator User's Guide

Getting Started with SPECTRUM for Operators

Getting Started with SPECTRUM for Administrators

How to Manage Your Network with SPECTRUM

Other Related Documentation

Refer to the following documentation for more information on managing TCP/IP-based networks:

Martin, James, Kathleen Kavanagh Chapman, Joe Leben. Local Area Networks: Architectures and Implementations, 2d ed. Englewood Cliffs, NJ: Prentice Hall, 1994.

Rose, Marshall T. The Simple Book: An Introduction to Management of TCP/IP-based Internets. Englewood Cliffs, NJ: Prentice Hall, 1991.

Stallings, William. Data and Computer Communications, 4th ed. New York: Macmillan Publishing Company, 1994.

Tanenbaum, Andrew S. Computer Networks, 3d ed. Englewood Cliffs, NJ: Prentice Hall, 1996.



Chapter 1

Introduction

What Is in This Chapter

This chapter introduces the SPECTRUM Management Module for the 3Com LinkSwitch 1000/3000. It describes the following:

- 3Com LinkSwitch 1000/3000
- SPECTRUM Model Types
- Accessing SPECTRUM views
- SPECTRUM Views Roadmap

3Com LinkSwitch 1000/3000

The 3Com LinkSwitch 1000 and 3Com LinkSwitch 3000 are stackable Fast Ethernet hubs that provide Fast Ethernet uplinks. The 3Com LinkSwitch 1000 provides 12 or 24 ports for twisted pair connections via RJ-45 connectors. The 3Com LinkSwitch 3000 provides 8 ports for twisted pair connections via RJ-45 connectors or 5 ports for fiber and one twisted pair RJ-45 connector.

The 3Com LinkSwitch 1000/3000 Management Module manages the 3Com LinkSwitch 1000 and 3Com LinkSwitch 3000 devices using the Simple Network Management Protocol (SNMP) Advanced Agent and the Management Information Bases (MIBs) included with the management module.

SPECTRUM Model Type

The model type Hub3ComLS1000 refers to the management module software package used to specify attributes, actions, and associations for the physical 3Com LinkSwitch 1000 or 3000 device using the Simple Network Management Protocol (SNMP) and Management Information Bases (MIBs) for that device.

Accessing SPECTRUM Views

Icons and labels that display information within an icon, provide access to SPECTRUM views. This is done using double-click zones ([Figure 1-1](#)) and Icon Subviews menu selections ([Figure 1-2](#)).

To access the Icon Subviews menu as shown in [Figure 1-2](#) and [Figure 1-3](#), do the following:

1. Highlight the icon or label.
2. From the View menu select Icon Subviews or click the applicable mouse button (middle or right). Refer to the SPECTRUM Views Reference for information on configuring your mouse.

Figure 1-1. Using Double-Click Zones to Access SPECTRUM Views

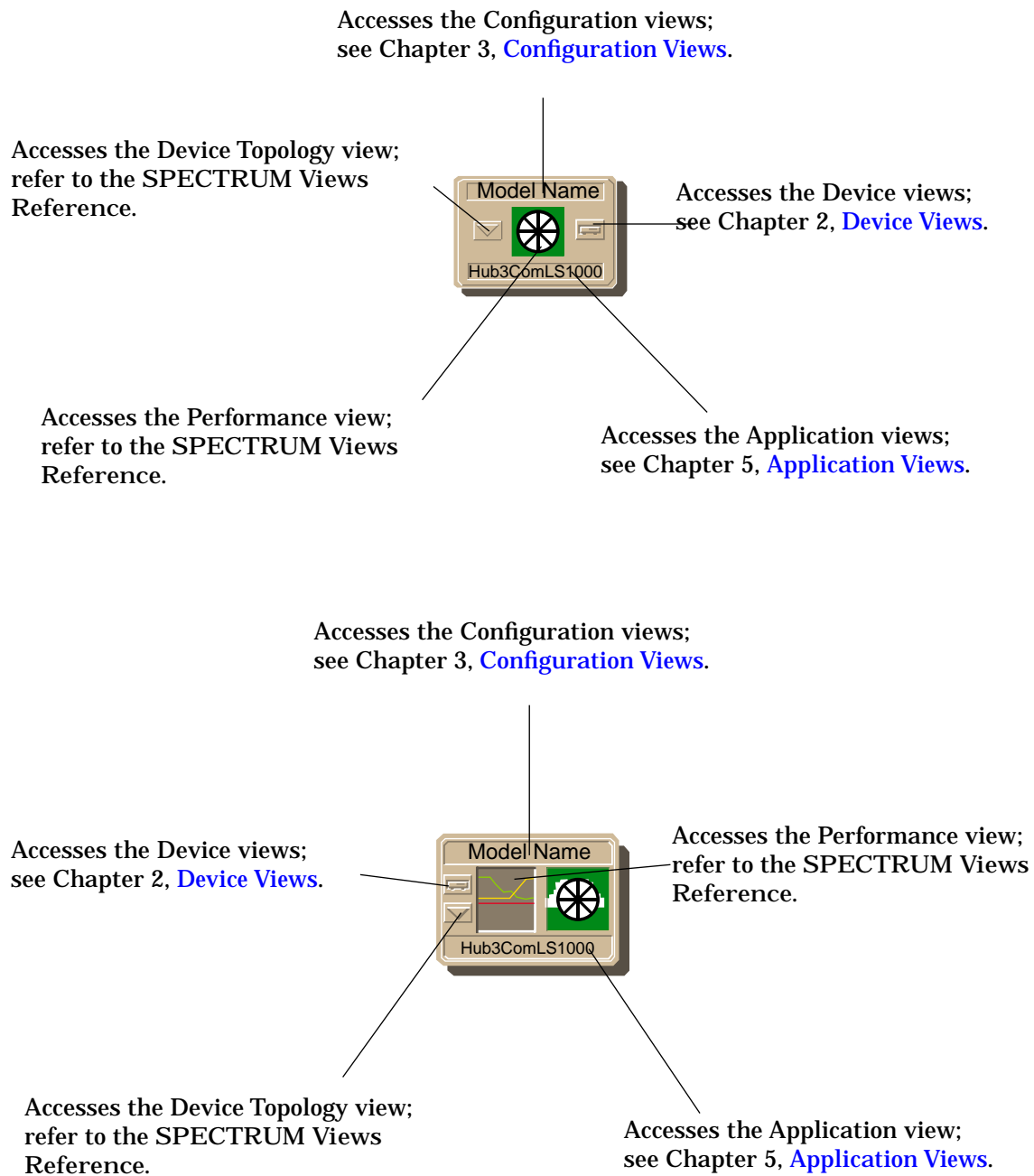


Figure 1-2. Using the Icon Subviews Menu to Access SPECTRUM Views

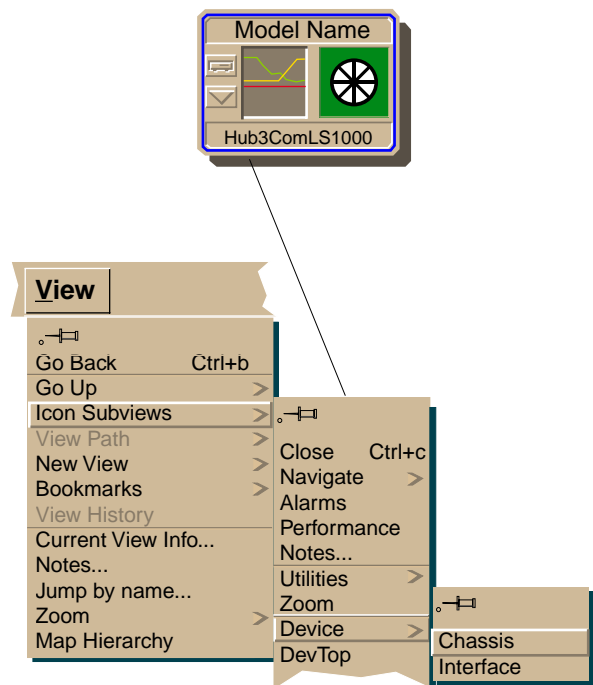
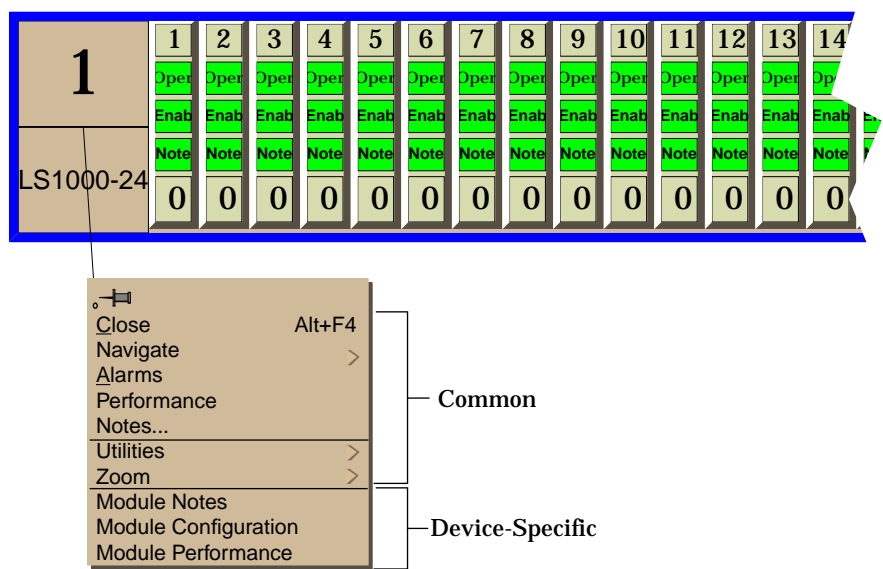


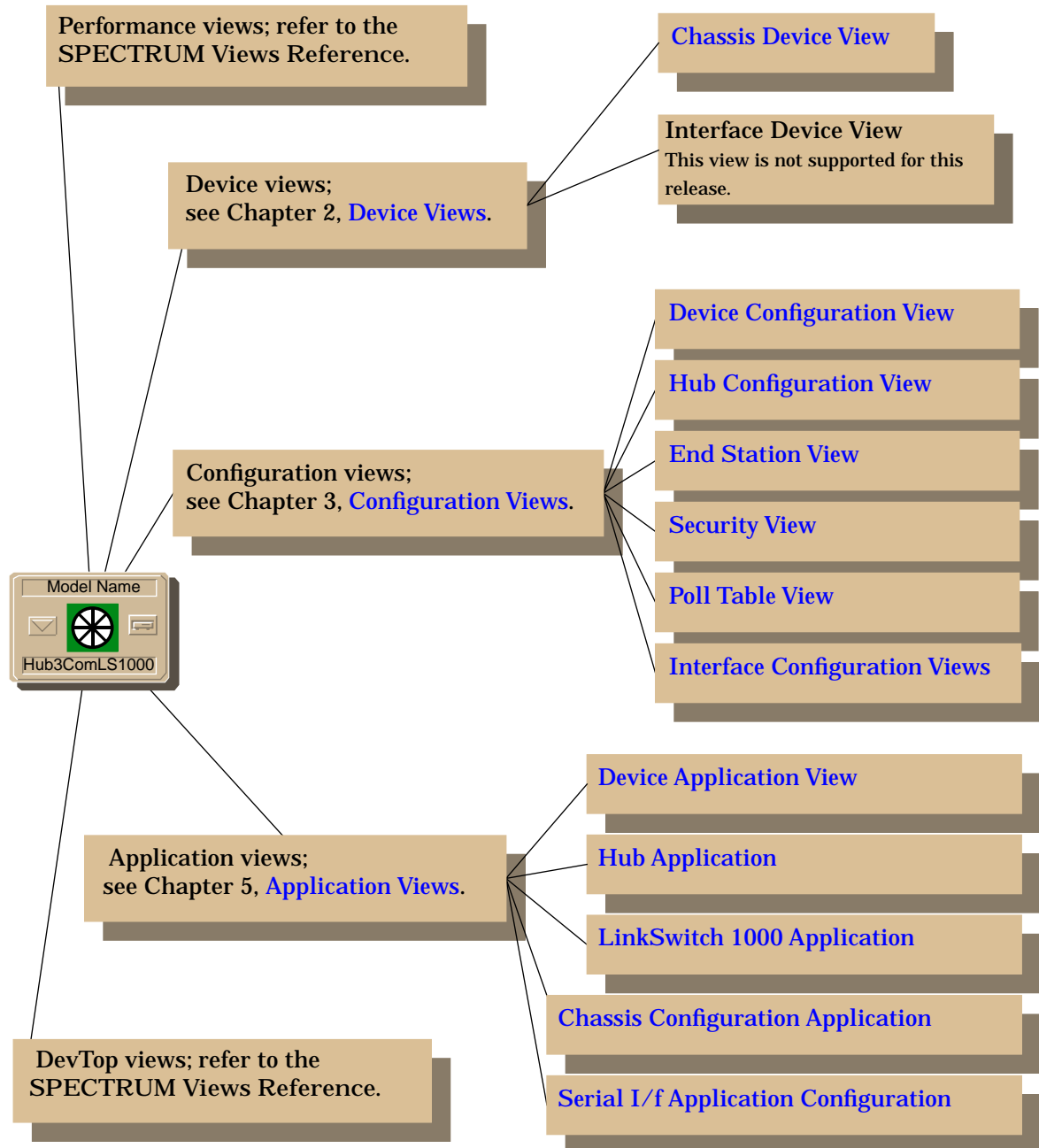
Figure 1-3. Accessing Icon Subviews Menus from Labels



SPECTRUM Views Roadmap

Figure 1-4 shows a “roadmap” of the SPECTRUM views for this device. These views are accessible from double-click zones (Figure 1-1) and Icon Subviews menus (Figure 1-2 and Figure 1-3).

Figure 1-4. SPECTRUM Views Roadmap





Chapter 2

Device Views

What Is in This Chapter

This chapter describes the following device views available for the 3Com LinkSwitch 1000/3000.

- Chassis Device view
- Interface Device view (This view is not supported for this release)

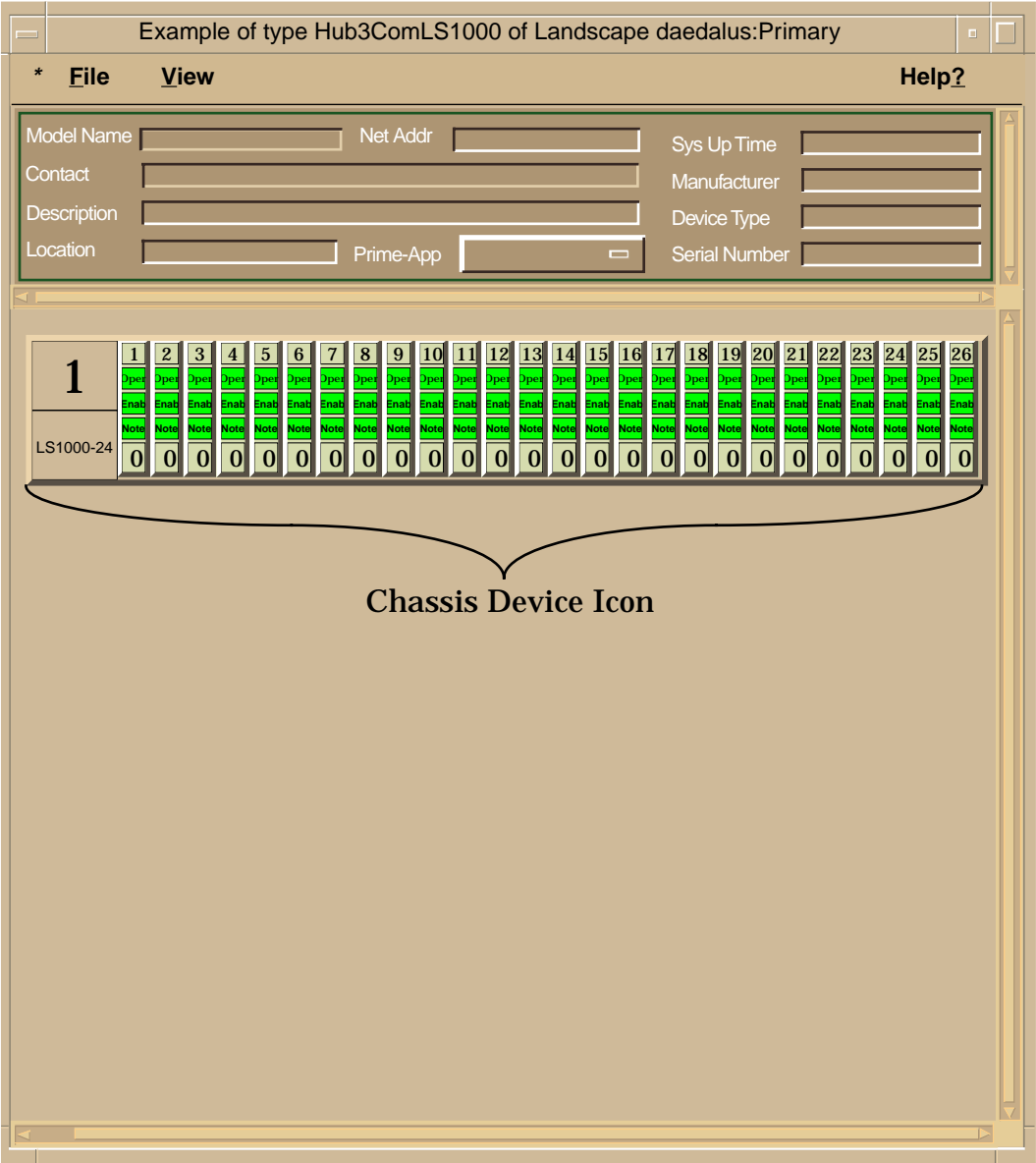
See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Chassis Device View

This view shows a logical representation of the device chassis and its interfaces or ports. The Chassis Device icon provides menu and double-click zone access to the views that monitor the interfaces.

Figure 2-1 shows an example of the Chassis Device view for the 3Com LinkSwitch 1000.

Figure 2-1. Chassis Device View



Chassis Device Icon

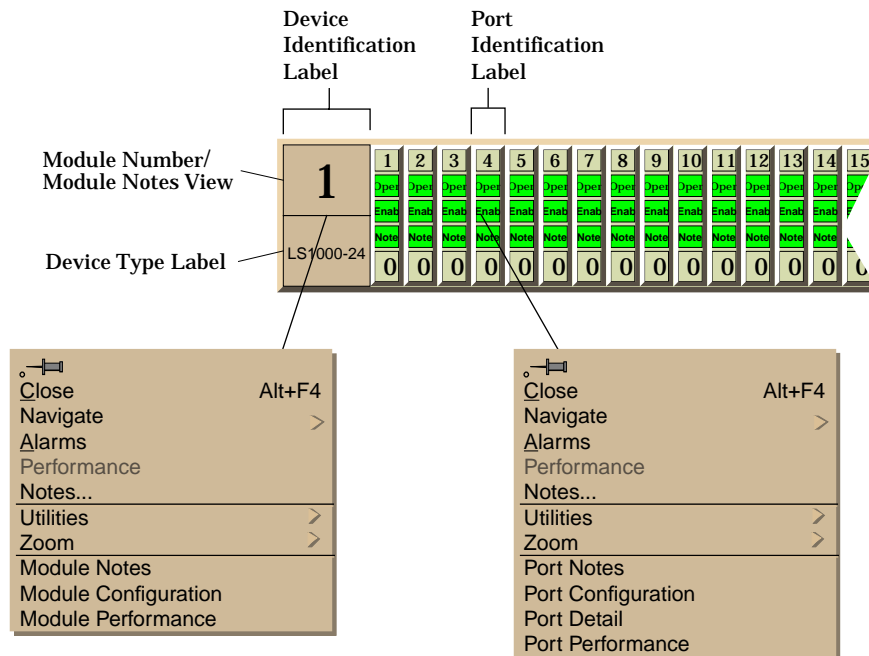
This icon is a logical representation of the physical device and its front panel interfaces. This section describes the information available from the Chassis Device icon. [Figure 2-2](#) shows an example of the Chassis Device icon for the 3Com LinkSwitch 1000.



The callouts displayed in this illustration identify the label name and the view to which it provides double-click access. For example: Module Number/Module Notes View displays the device model number and provides double-click access to the Module Notes view.

The menus displayed in the illustration are the Icon Subviews menus for that label.

Figure 2-2. Chassis Device Icon



Module Identification Label

This label provides the following information (see [Figure 2-2](#)):

Module Number
Displays the position of the module in the hub stack. Double-click this area to open the Notes view described in the SPECTRUM Views Reference.

Device Type Label
Identifies the type of device.

Module Icon Subviews Menu


[Table 2-1](#) lists each of the device-specific Icon Subviews menu selections available for these devices. For information on [Accessing SPECTRUM Views](#) see Chapter 1, [Introduction](#).

Table 2-1. Device Icon Subviews Menu

Menu Selection	Description
Module Notes	Opens the Notes view described in the SPECTRUM Views Reference.
Module Configuration	Opens the Module Configuration View described in Chapter 3, Configuration Views .
Module Performance	Opens the Module Performance view described in the SPECTRUM Views Reference.

Port Identification Label

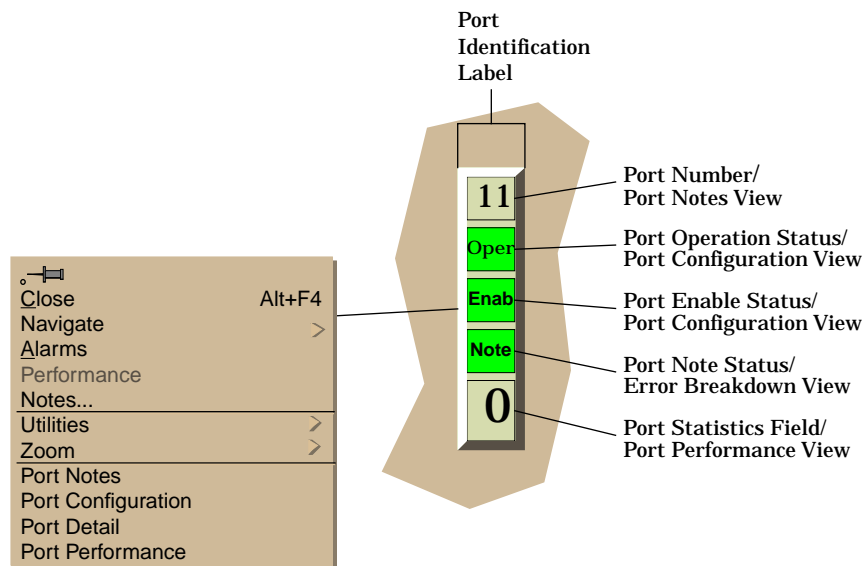
This label provides access to the Icon Subviews menu for the individual ports. It contains the following information (see [Figure 2-3](#)):



The callouts displayed in this illustration identify the label name and the view to which it provides double-click access. For example: Port Number/Port Notes View displays the port number and provides double-click access to the Port Notes view.

The menus displayed in the illustration are the Icon Subviews menus for that label.

Figure 2-3. Port Identification Label



Port Number

Displays the number of the port within the module. Double-click this area to open the Notes view described in the SPECTRUM Views Reference.

Port Operation Status

Displays the operational status of the port. Possible values are Operational and Nonoperational. Double-click this area to open the [Port Configuration View](#) described in Chapter 3, [Configuration Views](#).

Port Enable Status

Displays the enable status of the port. Possible values are Enable and Disable. Double-click this area to open the [Port Configuration View](#) described in Chapter 3, [Configuration Views](#).

Port Note Status

Double-click this area to open the Notes view described in the SPECTRUM Views Reference.

Port Statistics

Displays the number of packets transmitted. Double-click this area to open the Error Breakdown view described in the SPECTRUM Views Reference.

Port Identification Label Subviews Menu

[Table 2-2](#) describes the Port Identification Label Subviews menu selections. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Table 2-2. Port Identification Label Subviews Menu

Menu Selection	Description
Port Notes	Opens the Notes view described in the SPECTRUM Views Reference.
Port Configuration	Opens the Module Configuration view described in Chapter 3, Configuration Views .
Port Detail	Opens the Error Breakdown view described in the SPECTRUM Views Reference.
Port Performance	Opens the Module Performance view described in the SPECTRUM Views Reference.



Chapter 3

Configuration Views

What Is in This Chapter

This chapter describes the Configuration views available for the 3Com LinkSwitch 1000/3000. These views display network configuration and operating information for the device and its interfaces.

The following Configuration views are available for this device:

- Device Configuration View
- Hub Configuration View
- End Station View
- Security View
- Poll Table View
- Interface Configuration Views
 - Module Configuration View
 - Port Configuration View

Refer to Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Device Configuration View

This view provides device-specific configuration information as well as access to other views that allow you to configure device components.

To access the Device Configuration view do the following:

1. Highlight the device icon.
2. From the Icon Subviews menu, select Configuration.

Device Configuration Information

This section of the Configuration view displays the following device-specific information:

Device Name

Displays the user-settable name of the device.

Contact Status

Indicates whether a connection with the device has been established. Possible status messages include: Established, Lost and Initial.

Number of Interfaces

Displays the number of interfaces or ports available on this device.

Router Redundancy

This menu button allows you to set router redundancy to true or false.

This view also provides the following buttons, which allow you to configure this device:

IF Address Translation

Opens the Interface Address Translation Table.

Reconfigure

Reconfigures the device with the current settings.

Interface Address Translation

This view provides the following fields:

Interface Index

Displays the number for a given interface or port.

Physical Address

Displays the physical (MAC) address of the interface or port.

Network Address

Displays the network address of the interface or port.

Interface Configuration Table information

This table within the Device Configuration view provides the following configuration information about the device's interfaces or ports:

Index

Displays the number for a given interface or port.

Description

Displays a brief description of the device.

Type

Displays the type of hardware interface for the port. See the Administration documentation for a full list of possible interface types.

Bandwidth

Displays the bandwidth of an interface or port.

Physical Address

Displays the physical (MAC) address of the interface or port.

Operation Status

Displays the current operational state of this port. Possible values are On, Off, and Testing.

Admin Status

Displays the current operational state of this port (On, Off, or Testing).

Last Change

Display the date and time of the last change to the port's status.

Queue Length

Displays the length of the queue.

Packet Size

Displays the size of packets moving through this port.

Hub Configuration View

To access the Hub Configuration view do the following:

1. Highlight the device icon.
2. From the Icon Subviews menu, select Hub Config.

This view provides the following information and fields:

Last Restart Type

Displays the reason for the last restart. See [Table 3-1](#) for a listing of possible reasons and explanations.

Table 3-1. Hub Configuration Possible Restart Values

Reason	Explanation
Other	None
Command	Management command
Watchdog	Watchdog timeout expiry
Power-reset	Power interruption
System-error	Reset switch pressed or system error

Restart Count

Displays the number of restarts for this device.

Restart Action

Allows you to select the action taken upon restart. Possible menu selections are NoChange to restore the device to the previous settings and Restart to select the current settings.

Reset Action

Allows you to select the action taken upon resetting the hub. Possible menu selections are NoChange to select the current settings and ManDefaultReset to restore the manufacturer's defaults.

PROM Sw Ver No

Displays the PROM software version number.

Last System Error

Displays the error code for the latest system error. On startup this field is set to the last NVRAM system error code. When the system issues a trap indicating the latest system error number, the value in NVRAM is set to zero. After the next restart this field would have a value of zero.

Heartbeat Interval

The time between successive heartbeat events sent to the management station, in seconds. An interval of 0 indicates that no heartbeat events are to be sent. Values up to 65535 can be entered.

The Hub Configuration view also provides the following buttons:

Interface Setup

This button displays the Interface Setup View.

Ascii Agent Info

This button displays the ASCII Agent Information View.

Interface Setup View

This view displays the Interface Setup table and the Default Router IP address. The Interface Setup table is described below.

Default Router IP

Displays the IP address of the default router to be used for sending IP datagrams to the remote destinations which have no entry in the IP Routing Table. This corresponds to an entry in the MIB-II IP Routing Table with a Destination field of “0.0.0.0” (the default router) which is set up from this field after a system restart.



Changes to this field do not affect the IP Routing Table until after the next system reset. To change the IP Routing Table without resetting, change it directly. Change this field only if you want the change to be permanent.

Interface Setup Table

This table shows the IP address and network mask to be used in initializing the IP Address Table on each network interface after the next system restart. There is one entry per network interface. The Index is equivalent to the Index in the Interface Configuration table in the Device Configuration view. Double-clicking an entry in this table displays the Interface Setup View in which you can update the IP Address and Network Mask for that entry.

Interface

Displays the number of the interface or port. It is equivalent to the Index in the Interface Configuration table.

IP Address

Displays the IP Address of the interface or port.

Network Mask

Displays the IP network mask of the interface of port.

ASCII Agent Information View

This view displays information about who is logged in to the device, whether they are currently active, and the time they logged in. These fields are updated by an ASCII agent such as a local terminal or a remote login.

This view displays the following fields:

User Name Last Attempted Login

Displays the ASCII string entered as the user name when last attempting to login.

Login Status

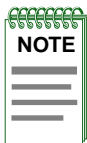
Displays the status of the last attempted login.

Time Attempted Login

Displays the time of the last login attempt in hundredths of a second since the system was last restarted.

End Station View

The End Station database maintains information relating end station address information to device port for 802.3 repeater-type devices. This view allows you to view and modify the address information for the device.



The End Station database is global and applies across all devices in the stack. There is no distinction between units on one repeater and those on another. Given a unit number, the manager can read the configuration values to determine the actual repeater association.

To access the End Station view do the following:

1. Highlight the device icon.
2. From the Icon Subviews menu, select Endstation Config.

This view provides the following information and fields:

Flush Database

Allows you to empty the database.

Database State

Displays NoChange until a change is made to the End Station database. It then displays Modified until reset.

This view also includes the following buttons:

Modified Table

Accesses the EndStation Modified Table view.

End Station Table

Accesses the EndStation Table view.

Port Access Table

Accesses the EndStation Port Access Table view.

EndStation Modified Table view

This table displays only those entries in the database with the Modified Flag set. Any entries that have changed since last viewed by a manager will be displayed in this view. This view is sorted by Address Type.

For information about individual fields see the EndStation Table view, described below.

EndStation Table view

This table displays the entire contents of the database indexed by end station address.



The repeater number reported will change if the repeater within a device is moved to another device or if the unit is isolated.

An address is only reported once. If an address that is already present in the database is found on another port, the original record is changed and flagged as modified.

This table displays the following:

Address Type

The end station database is capable of storing information for a number of protocols, each with its own addressing format. This parameter allows access to the database indexed on address type.

IP Address

The IP address, if relevant.

MAC Address

The MAC address, if relevant.

Slot

Displays the number of the unit on which this address was learned.

Port

Displays the port number within the unit on which this address was learned.

EndStation Port Access Table view

This table displays only those entries in the database with the Modified Flag set. Any entries that have changed since last viewed by a manager will be displayed in this view. This view is similar to the EndStation Modified Table view, but is sorted by Slot andPort rather than Address Type.

For information about individual fields see the EndStation Table view, described on Page [3-7](#).

Security View

To access the Security view do the following:

1. Highlight the device icon.
2. From the Icon Subviews menu, select Security.

This view provides the following information and fields:

Security Enable Table

This table displays permission for access to the device from each of its interfaces. Users are assigned security levels in the Security Users Table view. Double-clicking an entry in this table displays the Security Enable Table Entry view.

Security Level

Displays the security level for the table. This field also acts as the index for the table. Possible values are Monitor, SecureMonitor, Manager, Specialist, and Security.

The following fields have possible values of Enable, Disable, PermanentlyEnabled, and PermanantlyDisabled. You can change these fields from the Security Enable Table Entry view.

Community

The community SNMP access permission.

Secure

The secure SNMP access permission.

Terminal

The local terminal access permission.

Telnet

The Telnet access permission.

FrontPanel

The front panel access permission.

The Security View also includes the following buttons:

Security Users

Accesses the Security Users Table view

Security Audit Log

Accesses the Security Audit Table view.

Security Users Table view

This view allows you to add and delete users and to modify their security levels. The default users, Monitor, Manager, and Security, can not be deleted. Double-clicking an entry in this table displays the Security Enable Table Entry view.

This table displays the following:

Status

Displays the user status. Possible values are Valid and Invalid. A value of Invalid means the user can no longer access the device. The default users, Monitor, Manager, and Security, can not have their status changed to Invalid. You can update this field in the Security Users Table Entry view.

Name

Displays the user name. This is the index for the table. Empty user names are not allowed.

Level

Displays the user access level. This access level defines the scope of management this user can perform. The levels of security are the same as in the Security Enable Table described on Page 3-8. You can update this field for all users except the default users.

Password

Displays the password required for user confirmation when access is made from the local serial port, the front panel, or through Telnet. The Password field is only available in the Security Users Table Entry view and is a write-only field.

Community

Displays a string identifying the user when access is through the original community-based SNMP (RFC1157). You can update this field.

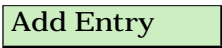
Local Party

Displays the local party identity of the user when access is through secure SNMP. You can update this field.

Manager Party

Displays the manager party identity of the user when access is through secure SNMP. You can update this field.

The Security Users Table view also includes the following button:

A rectangular button with a green background and a black border. The text "Add Entry" is written in black, centered within the button.

Allows you to add entries to the table.

Security Audit Table View

This view displays a record of all updates to the managed database of the device. When the log is full the oldest entry is overwritten. Therefore, this log should be read regularly by a management device so that a permanent record of the management history can be stored.

This view can not be modified. It displays the following:

Index

Displays the index number for an entry. This is a value between 1 and 65535 which resets to 1 after reaching 65535.

Time

Displays the time of the last update request, in hundredths of a second since the last system restart.

User

Displays the name of the user making the request.

Object

Displays the object identifier for the item being updated. This includes any qualifier for the object.

Value

Displays the new value for the item.

Result

Displays the result of the update request. See [Table 3-2](#) for possible responses.

Table 3-2. Security Audit Log Results

Result	Meaning
Success	Update succeeded
Pending	Update not yet completed
Too-big	Value rejected as too big for the item
Failed	Value rejected by access function
Locked	Item is locked by another manager
Security-violation	User does not have privileges for this request
No-such-function	Item is read-only
No-such-item	Item does not exist

Poll Table View

This view allows you to view and modify the polling information for the device.

To access the Poll Table view do the following:

1. Highlight the device icon.
2. From the Icon Subviews menu, select Poll Config.

This view provides the following information and fields:

Index

Displays the number of the interface or port.

Address

Displays the IP address of the interface or port.

Protocol

Displays the protocol used to reach the interface or port.

Rate

Displays the rate at which the interface or port is contacted.

Target

Displays the intended target of packets sent from the interface or port.

Poll Sent

Displays the number of polling attempts used to reach the target.

Trip Time

Displays the time taken to reach the target in milliseconds.

Information

Displays any information returned from the target.

Alarm

Displays any alarms returned from the target.

Owner

Displays the owner of the target.

Row Status

The Status for this entry.

[Table 3-3](#) shows possible values and descriptions.

Table 3-3. Poll Table Row Status Values

Value	Description
Active	This status can be displayed and set
NotInService	This status can be displayed and set
NotReady	This status can be displayed but not set
Create&Go	Used only when adding entries
Create&Wait	Used only when adding entries
Destroy	Deletes the entry

The Poll Table View also displays the following information:

Next Free Index

Displays the index number assigned to any new entries.

Add Entry

Allows you to add entries to the Poll Table. This button accesses a view with the following:

Instance

Allows you to enter the instance for the new entry.

Address

Allows you to enter the IP Address for the new entry.

Rate

Allows you to enter the polling interval for the new entry. Possible values are Once-Only, 30-Seconds, Minute, 5-Minutes, 30-Minutes, and Hour.

Row Status

The Status for this entry. [Table 3-3](#) shows possible values and descriptions.

Interface Configuration Views

These views provides access to configuration and operating statuses for both modules and the ports which they contain.

Module Configuration View

This view provides information on the configuration and operating status of the module.

To access the Module Configuration view do the following:

1. Within the Chassis Device view, highlight the module icon.
2. From the Icon Subviews menu, select Module Configuration.

The Module Configuration view provides the following information:

Operational Status

Displays the status of the module. Possible values are operational, notoperational and unknown.

Last Status Change

Displays the system up time at the time when the value of the operational status object for this group last changed. A value of zero indicates that the group's status has not changed since the agent was last restarted.

Port Capacity

Displays the number of ports on the module.

Module Type (OID)

Displays the Object IDentifier (OID) of the MIB for this device.

Module Description

Displays a brief description of the device.

Port Configuration View

This view provides information on the configuration and operating status of a port within a module.

To access the Port Configuration view do the following:

1. Within the Chassis Device view, highlight the port icon.
2. From the Icon Subviews menu, select Port Configuration.

The Port Configuration view provides the following information:

Administrative Status

This field allows you to enable and disable the port. A disabled port neither transmits nor receives. Once disabled, a port must be explicitly enabled to restore operation. A port which is already disabled when power is lost or when a reset is exerted shall remain disabled when normal operation resumes.

The Administrative Status value takes precedence over Auto Partition and functionally operates between the auto-partition mechanism and the AUI/PMA.

Enabling the port sets it to notAutoPartitioned regardless of its pre-disabling state.

Operational Status

Displays the port's operational state. Possible values are operational, notOperational, and notPresent. The operational state indicates that the port is enabled and working, even though it might be auto-partitioned. The notPresent state indicates the port is physically removed (note this may or may not be possible depending on the type of port.)

Auto Partition State

Indicates whether the port is currently partitioned by the repeater's auto-partition protection.

The conditions that cause port partitioning are specified in the IEEE 802.3 Standard.

Last Source Address

Displays the Source Address of the last readable frame received. If there is no data 0.0.0.0.0.0 is displayed.

Source Address Changes

This counter is incremented by one for each time the Last Source Address attribute changes. This may indicate whether a link is connected to a single DTE or another multi-user segment. The approximate minimum time for rollover of this counter is 81 hours.



Chapter 4

Event and Alarm Messages

What Is in This Chapter

This chapter lists the types of events and alarms generated by the 3Com LinkSwitch 1000/3000 and provides any probable cause messages corresponding to these alarms.

Device Events and Alarms

Table 4-1 lists the SPECTRUM database directory paths (in bold) and the messages displayed for the Event Log and Alarm Manager when applicable.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00010306 {d "%w- %d %m-, %Y - %T"} A(n) {t} device, named {m}, has been cold started. (event [{e}])	No Probable cause message.
CsEvFormat/Event00010307 {d "%w- %d %m-, %Y - %T"} A(n) {t} device, named {m} has been warm started. (event [{e}])	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00010308 {d "%w- %d %m-, %Y - %T"} A(n) {t} device, named {m}, has detected a communication Link Down. (event [{e}])	CsPCause/Prob00010308 Communication link is down.
CsEvFormat/Event00010309 {d "%w- %d %m-, %Y - %T"} A(n) {t} device, named {m}, has detected a communication Link Up. (event [{e}])	No Probable cause message.
CsEvFormat/Event0001030a {d "%w- %d %m-, %Y - %T"} A(n) {t} device, named {m}, has detected an Authentication Failure. (event [{e}])	CsPCause/Prob0001030a Authorization failure. Other user is trying to connect to device with an invalid community string.
CsEvFormat/Event0001030b {d "%w- %d %m-, %Y - %T"} A(n) {t} device, named {m}, has detected an EGP Neighbor Loss. EGP Neighbor IP address is {O 1}. (event [{e}])	CsPCause/Prob0001030b Lost contact with EGP neighbor.
CsEvFormat/Event00ea0013 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) Is informing the manager that the device is still operating. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0014 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) has had its configuration modified via the ascii agent. This may be through Telnet or the V24 port. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0015 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) An user "{S 1}" has attempted a login and failed three times. The cause was {T comstat 2}. (event [{e}])	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00ea0016 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) a gauge {O 1} has gone over its threshold {I 3}. The sample period was {I 5} and the number of samples used is {I 7}. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0017 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) a gauge {O 1} has gone below its recovery level {I 3}. The sample period was {I 5} and the number of samples used is {I 7}. (event [{e}])	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0018</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) has reported that a sytem load request has failed. The reason was {T slstat 1}. (event [{e}])</p>	<p>CsPCause/Prob00ea0018</p> <p>When a system load is requested, a response is returned immediately and the load proceeds in the background. If an error is detected this trap is generated indicating the reason why in the status, as follows:</p> <ul style="list-style-type: none"> (1) file not found; (2) access violation; (4) illegal TFTP operation; (5) unknown transfer ID; (7) no such user; (8) no response from the load server; (9) the download could not be started because of a lack of resources; (10) the length of a record differs from that implied by the value of the record length field; (11) the record type is not recognised; (12) record checksum error; (13) the device type in the file is incorrect; (14) the software image is not suitable for this version of the hardware; (15) the first record in the file was not a file header; (16) The byte count reported in the file trailer record differed from the number of bytes actually received. <p>When loading a new image into the device containing the agent itself, the agent first reads the beginning of the image file to test if it is accessible and contains a valid image. If there is anything wrong, this trap is generated, no download is performed and the device continues to run uninterrupted. If this check is successful the download proper is begun. Should that fail, it is simply retried continuously until either an attempt succeeds or the device is reset.</p>
<p>CsEvFormat/Event00ea0019</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports the endstation table has moved to the modified state. (event [{e}])</p>	<p>No Probable cause message.</p>

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00ea0020 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports the endstation table is full. (event [{e}])	CsPCause/Prob00ea0020 When the end-station table becomes full this trap is generated.
CsEvFormat/Event00ea0024	No Probable cause message.
CsEvFormat/Event00ea0025 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the slot. port. index {I 2} mau has entered or left the available state. current state is {T maustate 1}. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0026	No Probable cause message.
CsEvFormat/Event00ea0027 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a new entity of service type {T service 1} has been installed at location {I 2}. The service ID is {I 5} and the entity has name {S 9} and {I 7} ports. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0028 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that an entity of service ID {I 1} and entity name {S 3} has been removed. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0029 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that an entity of service ID {I 1} at the slot. index is {I 4} has changed its facilities for its type {T etype 3} to {I 5}. (event [{e}])	No Probable cause message.
CsEvFormat/Event00ea0030 {d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a card is added to the service {I 1}. (event [{e}])	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0031</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a card has been removed from the service {I 1}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0032</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a physical entity of service id {I 1} has changed state to {T estate 3}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0033</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the power requirements of the entities in the chassis exceed the power capacity of the power supplies. (event [{e}])</p>	<p>CsPCause/Prob00ea0033</p> <p>The combination of the power requirements of all the entities in the chassis has been calculated to exceed the power capacity of the power supplies present in the chassis.</p>
<p>CsEvFormat/Event00ea0034</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the management card temperature sensing device is reporting DANGER. (event [{e}])</p>	<p>CsPCause/Prob00ea0034</p> <p>Mounted on the Management card is a temperature sensing device. This device provides three output levels: OK, WARM and DANGER. DANGER causes a trap to be generated.</p>
<p>CsEvFormat/Event00ea0035</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the status input {I 2} of name {S 3} has changed state to {I 1} (1=Open, 2=Closed). (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0036</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that port {I 2} has learned a station address {H 3}. (event [{e}])</p>	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0037</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has detected a security violation. (event [{e}])</p>	<p>CsPCause/Prob00ea0037</p> <p>This trap indicates that this port has detected security violation.</p>
<p>CsEvFormat/Event00ea0038</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had its partition state changed to {I 1} (1=Partitioned, 2=UnPartitioned). (event [{e}])</p>	<p>No Probable cause message.</p>
<p>CsEvFormat/Event00ea0039</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had its link state changed to {I 1} (1=Present, 2=Absent). (event [{e}])</p>	<p>No Probable cause message.</p>
<p>CsEvFormat/Event00ea0040</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had its Admin state changed to {I 1} (1=Enabled, 2=Disabled) by a gauge. (event [{e}])</p>	<p>No Probable cause message.</p>
<p>CsEvFormat/Event00ea0041</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had its Bandwith Used threshold {I 3} exceeded. The Bandwith used is {I 1} (event [{e}])</p>	<p>No Probable cause message.</p>
<p>CsEvFormat/Event00ea0042</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had its Errors/10000 packets threshold {I 3} exceeded. The Errors/10000 packets is {I 1} (event [{e}])</p>	<p>No Probable cause message.</p>

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0043</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} in a resilience pair has had a change in state and the active port has been switched. The state of the main port is {I 1} the state of the backup port is {I 3} (1=Failed, 2=OK, 3=OK-And-Active) (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0044</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} in a resilience pair has had a change in state and the active port has not been switched. The state of the main port is {I 1} the state of the backup port is {I 3} (1=Failed, 2=OK, 3=OK-And-Active) (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0045</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a topology change has occurred in the ring at time {I 1}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0046</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the main rings state has changed to {T rstate 1}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0047</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the backup rings state has changed to {T rstate 1}. (event [{e}])</p>	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0048</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that either the main and backup rings have wrapped or that the wrap condition has been removed. The new wrap state is {I 1} (1=NotWrapped, 2=Wrapped). (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0049</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a MAU port {I 2} has had a change in attach state and the admin state of the port is disabled. The new attach state is {I 1} (1=Absent, 2=Present). (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0050</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the Ring In port has changed state while the mode is fail-safe. The new Ring In state is {I 1} (1=Open, 2=Wrap). (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0051</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the Ring Out port has changed state while the mode is fail-safe. The new Ring Out state is {I 1} (1=Open, 2=Wrap). (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0060</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a MAU port {I 2} has changed state due to operation of ZDL or DRI. The new MAU port state is {I 1} (1=Enabled, 2=Disabled). If disabled the reason is {I 3} (1=None, 2=Mgmt, 3=ZDL, 4=DRI). (event [{e}])</p>	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0061</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the managed agent has recieved a reply to a poll after a sequence of four or more unsuccessful polls. The address is {S 1} with protocol {T pprot 3}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0062</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the managed agent has not recieved a reply to a poll after a sequence of four unsuccessful polls. The address is {S 1} with protocol {T pprot 3}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0063</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the Resilient Backup Power Supply connected to this repeater has developed a fault. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0064</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that the Resilient Backup Power Supply connected to this repeater has recovered from a fault. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0066</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has seen an unrecognised MAC address and is doing the following action {I 1} (2=Notify, 3=Disconnect). (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0067</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a repeater {I 2} has had its Bandwith Used threshold {I 3} exceeded. The Bandwith used is {I 1} (event [{e}])</p>	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0068</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a repeater {I 2} has had its Errors/10000 packets threshold {I 3} exceeded. The Errors/10000 packets is {I 1} (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0069</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a card {I 2} has had its Bandwith Used threshold {I 3} exceeded. The Bandwith used is {I 1} (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0070</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a card {I 2} has had its Errors/10000 packets threshold {I 3} exceeded. The Errors/10000 packets is {I 1} (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0071</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a new station has been learned. The station info is {I 2} (slot. port. MAC-Address) (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0074</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a poll has been replied to from address {I 1}. (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0075</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a poll has failed to be replied to from address {I 1}. (event [{e}])</p>	No Probable cause message.

Table 4-1. 3Com LinkSwitch 1000/3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
<p>CsEvFormat/Event00ea0078</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a security violation has occurred on port {I 2} (slot. port. MAC-Address). The port's admin status is now {I 3} (1=Enabled, 2=Disabled) (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0079</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had a change in auto partition state. The new state is {I 1}. (1=Partitioned, 2=Unpartitioned) (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0080</p> <p>{d "%w- %d %m-, %Y - %T"} A 3Com Hub, {t} (name {m}) reports that a port {I 2} has had a change in link state. The new state is {I 1}. (1=Partitioned, 2=Unpartitioned) (event [{e}])</p>	No Probable cause message.
<p>CsEvFormat/Event00ea0082</p>	No Probable cause message.



Chapter 5

Application Views

What Is in This Chapter

This chapter describes the device-specific applications listed below for the 3Com LinkSwitch 1000/3000. The corresponding application model type is shown in parentheses.

- Hub Application (3ComHubApp)
 - Fault Table Application (3ComfaultApp)
 - Gauges Group Application (3Comgauges2App)
 - Local SNMP Application (3ComSnmpApp2)
 - Poll Table Application (3CompollApp)
 - Power Supply Application (3CompowerApp)
 - System Loader Application (3ComsysLdApp2)
- 3Com LinkSwitch 1000 Application (3ComLS1000App)
- 3Com Chassis Application (3ComchassisApp)
- 3Com Serial Interface Application (3ComserIfApp)
 - Multi Repeater Application (3CommultiApp2)
 - Port Security Application (3ComSecPortApp)
 - MRM Resilience Standby Application (3CommrmResApp)

Common Applications

This device supports the following common applications described in the Bridging Applications Reference, the MIB II Applications Reference, and the Miscellaneous Applications Reference:

- MIB-II (SNMP2_Agent)
 - ICMP (ICMP_App)
 - System (System2_App)
 - TCP (TCP2_App)
 - UDP (UDP2_App)
- Generic Router (GenRtrApp)
 - IP Routing (IP2RtrApp)
- Generic Bridging (Gen_Bridge_App)
 - Static Bridging (Static_App)
 - Transparent Bridging (Transparent_App)

The Standard RMON application is available if you purchase the associated service. This application is described in its management module guide.

Device Application View

This view shows the common and device-specific applications supported by this device and provides access to application-specific information.

See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

[Figure 5-1](#) provides an example of an Application view in the icon mode.

[Figure 5-2](#) provides an example of an Application view in the list mode.

To change the display mode, select View -> Mode -> List or Icon.

Figure 5-1. Device Application View (Icon Mode)

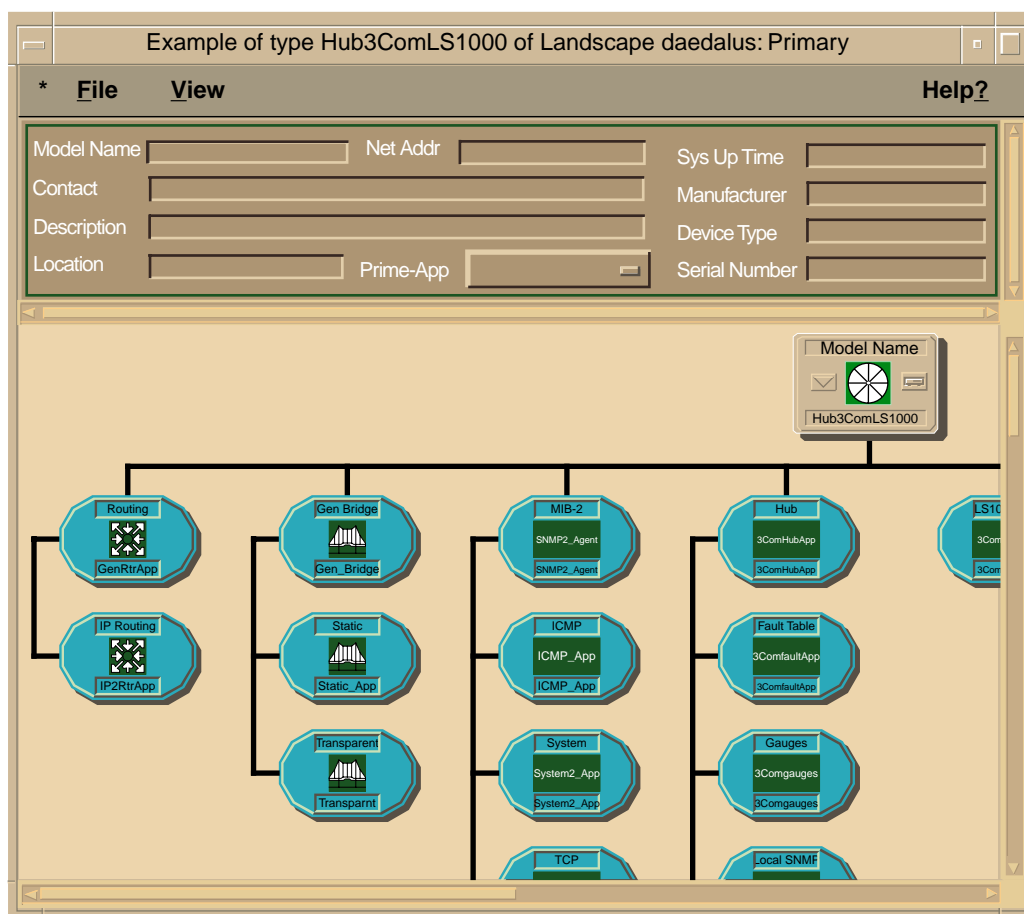
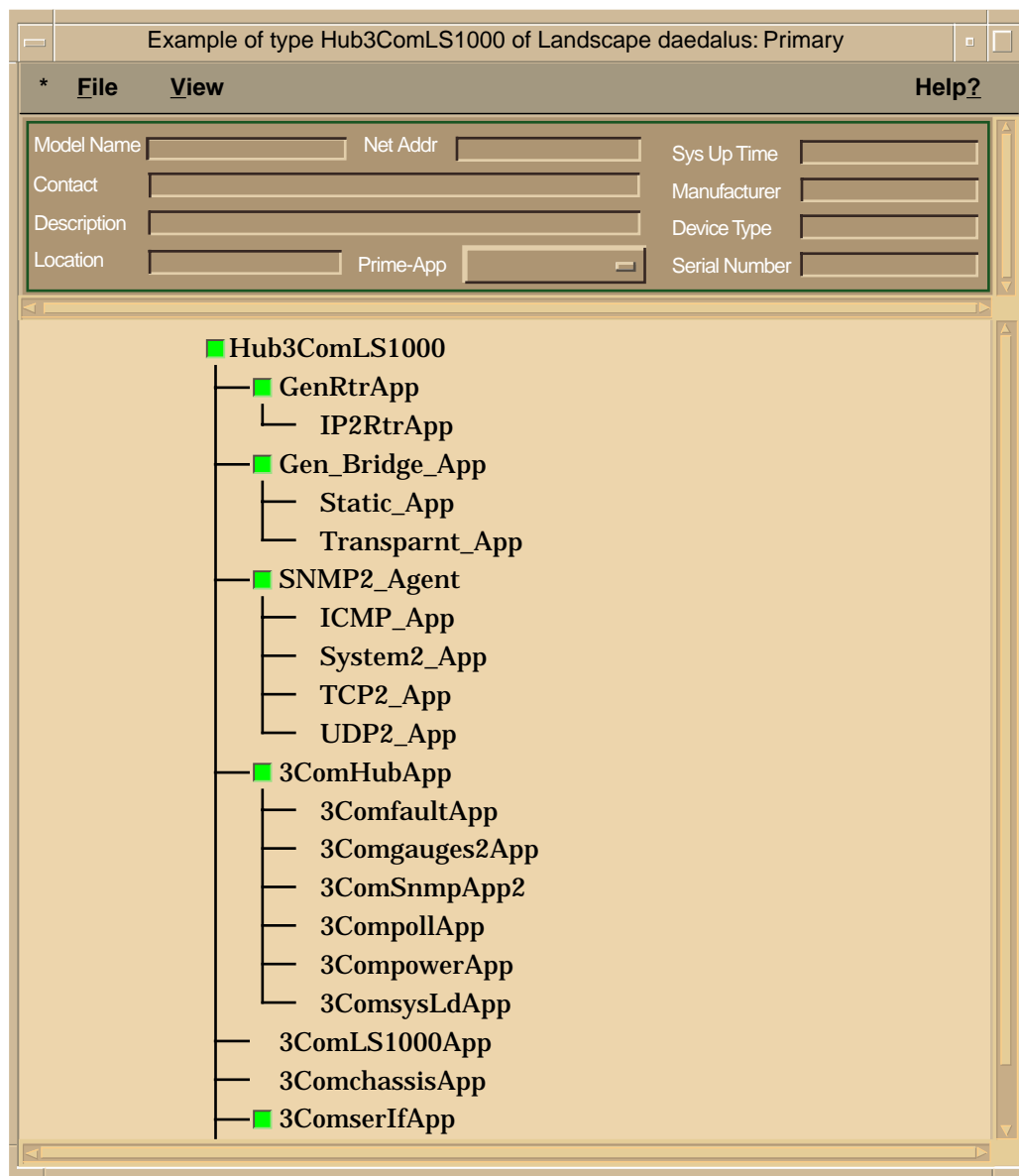


Figure 5-2. Device Application View (List Mode)



Hub Application

This application provides access to hub functionality for this device. The model type for this application is 3ComHubApp. [Table 5-1](#) describes each of the application-specific Icon Subviews menu selections for the Hub application.

Table 5-1. Hub Application-Specific Icon Subviews Menu Selections

Menu Selection	Description
Configuration	Described under Device Configuration View in Chapter 3, Configuration Views
EndStation	Described under End Station View in Chapter 3, Configuration Views
Security	Described under Security View in Chapter 3, Configuration Views
Model Information	Opens the Model Information view described in the SPECTRUM Views Reference.

The following applications are subordinate to the Hub application and have the same Icon Subviews menu selections. [Table 5-2](#) presents these selections.

- Fault Table
- Gauges Group
- Local SNMP
- Poll Table
- Power Supply Configuration
- System Loader

Table 5-2. Hub Sub-Application Icon Subviews Menu Selections

Menu Selection	Description
Configuration	Accesses the view described in the relevant section below.
Model Information	Opens the Model Information view described in the SPECTRUM Views Reference.

Fault Table

This application provides access to a table containing information on the faults detected by this device. The model type for this application is 3ComfaultApp.

Fault Table view

This view contains the Modified Flag menu button and the Fault Table.

Modified Flag

Be sure this flag is set to Clean-Read before examining the Fault Table. If it has the value of Modified, the table has been updated during the read process. Re-open the view to update the Fault Table.

Fault Table

This area of the Fault Table view displays information about faults detected by this device.

Index

The index to the table.

Error Number

The number for this entry in the error log.

Time Stamp

The time when the fault occurred, in milliseconds since system startup.

Restart Count

The number of restarts already made at the time of this fault.

Gauges Group

This application provides access to a table containing information on the operating levels of this device. The model type for this application is 3Comgauges2App.

Gauges Table View

This view contains the Gauge Table, several fields below the table, and the Table Update button.

Gauges Table

This table allows you to set up alarms.

Double-clicking any of the fields within the table opens the Gauge Table Entry view, which provides information for a specific row. Changes can not be made

in the Gauge Table Entry view. To change the information in a field, access the Table Row Update view by clicking the Table Update button.

Before updating any of the Gauge Table fields, turn the alarm off using the Gauge State field. Turning the alarm off and on again will affect the data; the sampling data, Value, Peak, and Status are not lost but any updates to the index will fail since they are read-only.

Index

Displays the index number for the entry. These are allocated by the Alarms Subsystem.

Object ID

Displays the Object ID and qualifier of the item to be monitored.

Item Type

Displays the type of object. Possible values are Counter, SignedMeter, or UnsignedMeter. Counters always have positive values. UnsignedMeter can be positive or negative. SignedMeter explicitly state positive or negative.

SPA

Displays the number of samples per average used to calculate the Alarm Value. Possible values are Non Averaging, Two Samples, Three Samples, and Max Samples. The default value is 4, Max Samples. If a value of 1 is used there is no averaging and the Value field shows the most recent sample.

Period

Displays the number of seconds between samples. The averaging period is the Period multiplied by the SPA.

Value

Displays the most recently computed average. For a signed or unsigned meter, this is the average of the samples. For a counter, the value is the average of the differences between successive samples.

Counters and unsigned meters are unsigned 32-bit values with a maximum value of 4294967295. Signed meters are signed 32-bit values and have a maximum value of + or - 2147483647 divided by the value in the SPA field.

Peak

Displays the highest recorded alarm value. This is a 32-bit value, signed or unsigned depending on the Item Type.

Threshold

Displays the value at which the Gauge State moves from the Ready state to the Fired state and the Threshold Action is taken. This is a 32-bit value, signed or unsigned depending on the Item Type.

Recovery

Displays the value at which the Gauge State recovers from the Fired state to the Ready state and the Recovery Action is taken. This is a 32-bit value, signed or unsigned depending on the Item Type.

Threshold Action

Displays the action to be taken when the Gauge State moves from the Ready state to the Fired state. The default value is 2, which sends a trap. Other actions are device-specific. See [Table 5-3](#) for a list of actions for this device. You can update this field.

Table 5-3. Gauges Threshold Actions

Value	Action
1	NoAction
2	SendTrap
3	Disable
4	Enable
5	NotifyAndBlipPortOff
6	NotifyAndBlipCardOff
8	NotifyAndDisablePort
9	NotifyAndDisableCard
12	BlipPortOff
13	BlipCardOff
14	DisablePort
15	DisableCard
18	NotifyAndResilientSwitch
19	NotifyBandwidthExceeded
20	NotifyErrorsExceeded
22	NotifyPollFailed
23	NotifyFilterBrodgePort

Recovery Action

Displays the action to be taken when the Gauge State moves from the Fired state to the Ready state. The default value is 2, which sends a trap. Other actions are device-specific and may not be available on all devices. See [Table 5-4](#) for a list of actions for this device.

Table 5-4. Gauges Recovery Actions

Value	Action
1	NoAction
2	SendTrap

Table 5-4. Gauges Recovery Actions (Continued)

Value	Action
3	Disable
4	Enable
10	NotifyAndEnablePort
11	NotifyAndEnableCard
16	EnablePort
17	EnableCard
21	NotifyPollSuccess
23	NotifyUnFilterBridgePort

Gauge State

Displays the current state of the alarm. You can update this field. [Table 5-5](#) lists possible values and descriptions of them.

Table 5-5. Gauge State Values

Value	Description
OnTriggersEnabled	The normal activity state of the alarm. The value is updated on every sample. If it crosses the Threshold or Recovery level the corresponding action is taken.
OnTriggersDisabled	Used when a new device or alarm is set up and the Threshold and Recovery values have not been calibrated. The alarm runs as normal and the Value and Peak fields are updated, but no action is taken.
Off	Deactivates the alarm. This allows it to be configured safely.
Deleted	Invalidates the alarm. Values are no longer updated.
AutoCalibrate	<p>Updates the Threshold and Recovery fields according to the current Peak value. The State then becomes onTriggersEnabled. This can not be set while the alarm is deleted.</p> <p>After autoCalibration:</p> <p style="padding-left: 40px;">Threshold = Peak * Threshold Level Scaler</p> <p style="padding-left: 40px;">Recovery = Peak * Recovery Level Scaler</p> <p>When the State is either onTriggersEnabled or onTriggersDisabled, all fields for the alarm are validated. If any of the fields are invalid the operation will fail.</p> <p>The sampling data, Value, Peak and State can be reset by setting this field to onTriggersEnabled, onTriggersDisabled or autoCalubrate when it is in either of the "on" states.</p>

Gauge Owner

Displays the entity that configured this entry and is therefore using the resources assigned to it. The default is System. You can update this field.

Gauges Group View Fields

In addition to the Gauges Table, this view contains the following:

Table Size

Displays the number of entries in the Gauges Table. This value depends on the requirements and resources of the device. In practice the maximum will be approximately 1000.

Next Free Index

Displays the index number that must be used for the next table entry.

Threshold Level Scaler

When the alarm is calibrated automatically, the Threshold is set to this percentage of the Peak value. The automatic calibration value is computed as the Peak value divided by this value, times 100. You can update this field to a value between 1 and 65535.

Recovery Level Scaler

When the alarm is calibrated automatically, the Recovery is set to this percentage of the Peak value. The automatic calibration value is computed as the Peak value divided by this value, times 100. You can update this field to a value between 1 and 65535.

Table Update

This button accesses the Table Row Update view.

Table Row Update view

This view allows you to update entries in the Gauges Table. Only one attribute can be modified at a time.

Configure Obj ID

Enter the Object ID of the entry that you want to update.

Configure Column

Select the attribute that you want to update. Possible values are provided at the bottom of the view. The entries in the list change depending on the Object ID selected.

Configure Value

Enter the new value for the selected attribute. Possible values are provided at the bottom of the view.

Local SNMP

This application provides access to the Local SNMP view, allowing you to set SNMP Traps for this device. The model type for this application is 3ComSnmpApp2.

Local SNMP View

This view contains the SNMP Trap Table, and below the table, the Next Free Index field and the Add Entry button.

Next Free Index

Displays the index value for the next table entry.

Add Entry

Accesses the Add SNMP Table Entry view.

SNMP Trap Table

This table stores the destination addresses of SNMP managers that wish to receive traps from this device. Double-clicking an entry in this table displays the SNMP Trap Table Entry view in which you can update several fields.

Index

Displays the index for this entry.

Destination

Displays the network address of the device to which the SNMP traps will be sent.

Protocol

Displays the transport protocol to use when sending the trap. Possible values are IP, IPX, and None.

Community

Displays the SNMP community string to be used when sending the trap. You can update this field.

Category

Displays the 32-bit mask indicating which categories of traps in which the Destination is interested. [Table 5-6](#) shows possible values and descriptions.

Table 5-6. SNMP Trap Categories

Value	Description
'00000001'h	High priority configuration traps
'00000002'h	Low priority configuration traps
'00000004'h	High priority security traps
'00000008'h	Low priority security traps
'00000010'h	Alarms and polling traps
'00000020'h	Regular heartbeat traps
'00000040'h	End Station Table traps
'00000080'h	Reserved
'00000100'h	Physical entity traps
'00000200'h	Facility traps
'00000400'h	Service related traps
0xFFFFFFFF	Enables all traps

Throttle

The maximum rate at which the Destination is willing to receive traps in milliseconds. You can update this field.

This is specified as the minimum interval between traps. A value of 2000 will limit the traps to one every 2 seconds. A value of 0 indicates that no trap throttling is required.

Row Status

The Status for this entry. [Table 5-7](#) shows possible values and descriptions.

Table 5-7. SNMP Trap Row Status Values

Value	Description
Active	This status can be displayed and set
NotInService	This status can be displayed and set
NotReady	This status can be displayed but not set
Create&Go	Used only when adding entries
Create&Wait	Used only when adding entries
Destroy	Deletes the entry

Poll Table

This application provides access to the Poll Table view, which presents a table containing polling information for this device. The model type for this application is 3CompollApp.

Poll Table View

This view contains the Poll Table, the Next Free Index field, and the Add Entry button.

Next Free Index

Displays the index number for the next table entry

Add Entry

Accesses the Poll Table Entry view in which you can add table entries and set the Row Status for this new entry.

Poll Table

This table is used to provide remote device monitoring facilities. It allows a table of network devices to be set up and polled. Setup variables include polling interval and protocol. This table can be configured to inform the management station(s) of devices that are not responding to polls or that have stated to respond after a period of silence.

The minimal single poll is as follows:

1. In one packet write the Address, Rate=Once-Only, and Row Status=Create&Go.
2. In the next packet read the Trip Time.

The minimal monitoring of a device is as follows:

1. In one packet write the Address, Rate=30-seconds and Row Status=Create&Go.
2. Wait for traps to come in.



The first row of the table is only used for once-only polls.

Index

Displays the index number to the entry.

Address

Displays the network address of the device to monitor. Typically this is an IP, IPX, or MAC address. You can update this field using the Poll Table Entry view. The following formats can be used:

- IP:nnn.nnn.nnn.nnn - dotted format
- IPX:AABBCCDD:AABBCCDDEEFF - network:node

Protocol

Displays the protocol used to monitor the device. A default entry is made using the format of the address in the Address field. You can update this field using the Poll Table Entry view. Possible values are: Unknown, IP, IPX, Learn, and LLC. If the protocol is not supported or not compatible with the Address format, an error is returned when you try to set the Row Status field to Active or NotInService.

Rate

Displays how often a poll packet is sent. You can update this field using the Poll Table Entry view. Possible values are Once-Only, 30-Seconds, Minute, 5-Minutes, 30-Minutes, and Hour.

Once-Only is the default. When Row Status is set to Active for a Once-Only poll just one poll is sent. There are no re-transmissions and no traps are generated. The results are displayed in the Poll Sent and Trip Time fields. When the reply is received the Row Status is changed to NotInService.

With all other Rate options, when the Row Status is set to Active, the device is polled regularly. The results are displayed in the Poll Sent and Trip Time fields. After four unsuccessful polls a Lost Contact trap is generated. Unsuccessful polling is when the Trip Time is still zero when the next poll is due to be sent. The next successful poll generates an Established Contact trap. Changing the Row Status from Active stops the polling. Changing to NotInService and back to Active is a convenient way of stopping and restarting polls.

Target

This field is not used by the device, but describes the Target type as being either a file server or another type of device. You can update this field.

Poll Sent

Displays the System Up Time at which the last poll was sent to the device. A value of zero means that either no poll was sent or that it could not be sent.

Trip Time

Displays the round trip time of the most recent poll, in milliseconds. A value of zero means that no reply was received. Times of less than 10 milliseconds are shown as 10 milliseconds.

Information

Displays protocol-specific information from the last poll. [Table 5-8](#) shows possible protocol values and descriptions of the value returned.

Table 5-8. Poll Table Information Values

Value	Description
IP protocol	The Time-To-Live value from the packet header.
IPX protocol	The number of router hops made by the poll response packet.

Alarm

Displays the alarm index from the RMON Alarm Table. The alarm indicated is being used by the Poll Table to provide timing and trap generation facilities. If this value is zero no alarms are associated with this entry.

Owner

The administratively assigned name of the owner of this resource. The RMON OwnerString conventions are used to help control multi-manager situations. You can update this field using the Poll Table Entry view.

Row Status

This field is only available in the Poll Table Entry view. It controls the polling. If any configuration parameters are changed when the status is set, polling stops and the status changes to NotReady. [Table 5-9](#) shows possible values and descriptions.

Table 5-9. Poll Table Row Status Values

Value	Description
Active	Values may be read or written.
NotInService	Values may be read or written.
NotReady	Values may be read, but not written.
Create&Go	Values may be written, but are never read.
Create&Wait	Values may be written, but are never read.
Destroy	Values may be written, but are never read.



Writing any data to a destroyed row changes the Row Status to NotReady.

Power Supply Configuration

This application provides access to the Supply Configuration view, which presents a table containing power supply information for this device. The model type for this application is 3CompowerApp.

Power Supply Configuration View

This view contains the Power Supply Table and the following:

Stack Backup Present

Displays whether a Resilient Backup Power Supply is being used in this stack.

Stack Backup Data

Displays all the information about power supplies attached to each unit in the stack. There is one octet for each unit in the stack.

Power Supply Table

This table displays the status of all power supply units in the stack. Double-clicking an entry in this table displays the Power Supply Table Entry view for that entry. You can not update information in either view.

Index

Displays the index number of the unit in question.

RBS Present

Indicates if a Resilient Power Supply unit is attached to the unit.

RBS Status

Displays the status of the Resilient Power Supply attached to the unit.

[Table 5-10](#) shows possible values and descriptions.

Table 5-10. Power Supply RBS Status Values

Value	Description
RBSNotApplicable	The unit does not support Resilient Power Supplies
RBSOK	The Resilient Power Supply is functioning with no faults
RBSFault	The Resilient Power Supply has a fault

System Loader

This application provides access to the System Loader View, which presents a table containing a history of software images loaded on this device. The model type for this application is 3ComsysLdApp2.

System Loader View

This view contains the System Loader Table.

System Loader Table

This table is used to control the loading of new software images to the device controlled by the management agent. By convention the first entry in the table (Type=System) controls the loading of the device containing the management agent itself. Agents which have no subsidiary devices will have only this entry in the System Loader Table. For agents with subsidiary devices, the other entries control the loading of software into these devices. Double-clicking an entry in this table displays the System Loader Entry View in which you can update the filename and Service Address fields for that entry and initiate a download.

Type

Displays the type of device to load. Simple agents contain only one device type which is always "System". Subsidiary agents have the type "Component". In general, a "System" device is one which monitors and manages the operation of component devices.

Inst

Displays the instance of the device type in the Type field.

Status

Displays the status of the last system load operation for this device, or the reason for its failure. [Table 5-11](#) shows possible status settings.

Table 5-11. System Loader Status States

State	Message
"Normal" states	LoadPending LoadActive Success Paused
Error states	FileNotFound AccessViolation IllegalOperation UnknownTransferID NoSuchUser NoResponse NoResource RecLenMismatch InvalidRecType ChecksumError WrongDevice WrongHardwareVersion NoFileHeader ByteCountError InvalidProgAddress EraseFailed ProgFailed ModInvalidAddress ModChecksumError ModTimeout ModBusy ModRemoved ModNoResource ModFailure

SWVers

Displays the version of the software running on this device.

HWVers

Displays the revision number of the hardware of this device.

Filename

Displays the name of the file which contains the software image to load or which was last loaded. You can update this field.

Server Addr or Server IP

The IP address of the host containing the file which contains the software image. You can update this field. This can be either an IP address in the format nnn.nnn.nnn.nnn, or an IPX address in the format

AABBCCDD:112233445566. An error is returned if the agent does not support the download protocol implied by the address format.

Protocol

Displays the protocol to use when downloading the software. This is determined from the format of the address in the Server Addr field.

Load

This field is only available in the System Loader Entry view. Always displayed as NoAction, set the value to StartDownLoad to load the new software as specified in this entry.

LinkSwitch 1000 Application

This application supports the LinkSwitch 1000 Configuration view, described below, and the Model Information view described in the SPECTRUM Views Reference. The model type name for this application is 3ComLS1000App.

LinkSwitch 1000 Configuration view

This view contains the Port Configuration Table, and the following buttons and fields.

Port Configuration Table

This table provides details of the configuration of a port on a LinkSwitch unit. Double-click an entry in the table to change the settings for that row. This table contains the following fields:

Unit

Displays the unit within a stack for which this table entry contains configuration information.

Port

Displays the port on the unit.

VLAN

Unless VLAN multiplexing is enabled for the port, this field uniquely identifies the VLAN of which this port is a member. When VLAN multiplexing is enabled, the value of this field is always the identifier of the default VLAN.

If

Displays the index into the ifTable for the interface corresponding to this port.

Mode

Displays the mode of the TP link between a port and its endstation. If the attribute is set to Full Duplex, frames are sent and received simultaneously without generating collisions on the segment. If the attribute is set to Half Duplex the normal rules of ethernet apply. Not all ports can support full duplex mode, and an attempt to set such a port to Full Duplex will be rejected. Possible values are Not Applicable, Half Duplex, Full Duplex, and Other.

IFM

This field controls the Intelligent Flow Management for the port. It specifies what action a port takes whenever it is unable to receive a packet because its buffers are full.

If this field is set to Off, the packet is dropped and no jam signal is transmitted. If the field is set to any of the values between Max Jams 6 and Max Jams 13, a jam signal is applied to the segment attached to this port in order to back off the transmitting station. This will be repeated a maximum of 6 to 13 times depending on the setting. If the port is then still unable to receive the packet, it is dropped.

Intelligent Flow Management should be disabled on ports which are connected to repeated segments.

Possible values are: Not Applicable, Off, Max Jams 6, Max Jams 7, Max Jams 8, Max Jams 9, Max Jams 10, Max Jams 11, Max Jams 12, and Max Jams 13.

Discard on TX

This field shows if the Discard-on-Transmit feature is on for frames coming from this port and going to any of the other ports on a LinkSwitch unit. If this field is set to On, the unit will discard frames destined for another port on a LinkSwitch unit, even if the receiving port's buffer is full. If this field is set to Off, frames will not be forwarded to another port until the buffer has space available.

Possible values are Not Applicable, Off, and ON.

In addition to the Port Configuration Table, this view contains the following buttons and fields:

VLAN Table

Accesses the LinkSwitch 1000 VLAN Config view.

Config Table

Accesses the LinkSwitch 1000 Unit Configuration view.

Database Table

Accesses the LinkSwitch 1000 Database view.

Fwding Action

Displays what action to take when the unit receives a packet with an unknown destination address. A unit can forward the packet to the downlink (if any) associated with the source port, or it can forward the packet to all its ports.

Fwding Mode

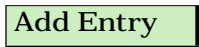
Allows you to set whether cut-thru is enabled on the unit. Possible values are Fast Forward, Fragment Free, Store & Forward, and Adaptive.

Enabling cut-thru can help minimize the delay experienced by packets before they are forwarded to their destination. Setting cut-thru to FastForward causes forwarding to begin as soon as 32 bytes of the frame have been received. Setting it to FragmentFree causes forwarding to begin when 64 bytes have been received. This is slower but eliminates the risk of forwarding an illegally short frame, however a valid length frame might still be forwarded even though it had a CRC error. Setting this field to Store & Forward disables cut-thru completely and frames will not be forwarded until they have been received in their entirety.

Cut-thru cannot operate if the destination port is currently involved in cut-thru from another port. In this case the device will process the frame in Store & Forward mode.

LinkSwitch 1000 VLAN Config view

This view describes the configuration of any VLAN accessible from this device. It contains the VLAN Table and the following button:

A rectangular button with a green background and a black border, containing the text "Add Entry".

Allows you to add entries to the VLAN Table.

VLAN Table

Double-click an entry in this table to access the Configuration Port Entry view in which you can change settings. This table contains the following fields:

Index

Displays the index number of a given VLAN.

Name

Displays the name of a given VLAN. This field can be changed only if the Row Status is Not In Service

Unit ID

When a frame is received with an unknown destination address some devices send it to all ports in the same VLAN as the originating port. Others send it to

a single port which is nominated for the purpose, known as the downlink. Whether downlinks are supported by a particular unit can be determined by looking at the Fwding Action field on the LinkSwitch 1000 Configuration view.

This field displays the unit on which this VLAN's downlink resides. It may be changed only when the Row Status is Not In Service. If this VLAN does not have a downlink, either because the unit does not support them or because one has not been configured, this field and PortID are both zero.

Port ID

This field displays the port on which this VLAN's downlink resides. This field displays the specific port on the unit displayed in the UnitID field.

Row Status

The VLAN table contains a row for each of the 16 VLANs that exist on a unit. VLANs cannot be created or deleted, so sets of this object with values Create And Go, Create And Wait, or Destroy will be rejected. A get of this object will only return the values Active or Not In Service.

Only if the status of the row is Not In Service will sets of the downlink unit or port be successful. Changes will not take effect until the Row Status is changed to Active. Thus, to change the downlink for a VLAN the network manager must first set Row Status to Not In Service, set the new values for the downlink, then set Row Status back to Active. This will fail in the following circumstances:

- The unit does not support downlinks (the value of Fwding Action is not Forward to Downlink).
- The port does not exist.
- The value of Mode for the port is not Multiplex and the port is not assigned to the VLAN.

LinkSwitch 1000 Unit Configuration view

This view contains the Config Table, which provides details on the configuration options for the unit.

Config Table

Double-click entries in this table to change a unit's configuration. This table contains the following fields:

Unit ID

Displays an identifier for a unit on a stack (or a card within a chassis) for which this table row contains configuration information.

Forwarding Action

Displays what action to takes when the device receives a packet with an unknown destination address. Possible values are Not Applicable, Forward to Downlink, and Forward to All. Forward to Downlink forwards the packet to the downlink (if any) associated with the source port. Forward to All forwards the packet to all ports.

Forwarding Mode

Displays whether cut-thru is enabled. Enabling cut-thru can help to minimize the delay experienced by packets before they are forwarded to their destination. Setting cut-thru to Fast Forward causes frame forwarding to begin as soon as 32 bytes of the frame have been received. Setting it to Fragment Free causes frame forwarding to begin when 64 bytes have been received. This is slower but eliminates the risk of forwarding an illegally short frame to the destination port, however a valid length frame might still be forwarded even though it had a CRC error. Setting this object to Store & Forward disables cut-thru completely, and frames will not be forwarded until they have been received in their entirety.

Cut-thru cannot operate if the destination port is currently involved in “cut-thru” from another port. In this case the device will process the frame in Store & Forward mode.

Pace Mode

Displays the type of backoff algorithm used on the device. A device can use the standard ethernet algorithm or, for PACE applications, the low latency mode should be used. This value defines the setting that a port will use if the port Pace Mode is set to default.

Possible values are Not Applicable, Use Default, Normal Ethernet, and Low Latency. This value can be changed by double-clicking the relevant row of the Configuration Table in the LinkSwitch 1000 Configuration View.

HP Type

Displays how the unit will decide if a packet is high or normal priority. The priority is determined from the source address of an incoming packet. If HP Type is set to Local Bit any packets with the local bit set will be considered to be high priority. If HP Type is set to Use Mask the OUI of the source address will be compared with Mask Value and, if they are the same, the packet is considered high priority.

Mask Value

Displays the mask which will be used to determine if a packet is high or normal priority. If the OUI of the source address matches this mask the packet is considered to be high priority.

LinkSwitch 1000 Database view

This view contains the Database Table and the following fields:

Database Size

Displays the number of permanent and non-permanent addresses currently held in the database on a LinkSwitch1000 hub.

Perm Database Size

Displays the number of permanent addresses currently held in the database on a LinkSwitch1000 hub.

Database Table

Double-click an entry in this table to change configurations. This table contains the following fields:

Unit

A LinkSwitch stack may contain up to four units. This number uniquely identifies the unit on which the address was learned.

Port

A LinkSwitch unit can contain up to 26 ports. This number uniquely identifies the port on which the address was learned.

Index

Multiple addresses can be learned on a single port. This number uniquely identifies one address on a port.

Address

The physical address of the station which has been learned on a port of a LinkSwitch stack.

Address Status

Displays the status of the address. Possible values are Non Permanent, Permanent, and Delete. Non Permanent addresses will eventually be removed from the database if they are not the subject of lookup requests. Permanent addresses remain in the database until the user deletes them. The user can remove an address from the database by setting this field to delete.

Address Priority

Displays if the address has been designated a high priority address, in which case packets from that address will get priority through the switch, or if it is normal priority.



This column will not be present if HP Type in the LinkSwitch 1000 Unit Configuration view is set to No High Priority.

Chassis Configuration Application

This application supports the Chassis Configuration View. The model type application is 3ComchassisApp.

Table 5-12 describes each of the application-specific Icon Subviews menu selections for the Chassis Configuration application.

Table 5-12. Chassis Configuration Application-Specific Icon Subviews Menu Selections

Menu Selection	Description
Configuration	Opens the Chassis Configuration view described below.
Model Information	Opens the Model Information view described in the SPECTRUM Views Reference.

Chassis Configuration View

This view contains the following fields and buttons:

- Name
Displays the type of device, for example LinkSwitch 1000.
- Hardware Version
Displays the hardware version for this device.
- Object ID
Displays the OID for the chassis.

Config Table

Accesses the Chassis Configuration Table view.

Limits Table

Accesses the Physical Limits View.

Service Table

Accesses the Chassis Service View.

Address Table

Accesses the Service Address View.

Facility Table

Accesses the Facility Table View.

Chassis Configuration Table view

This view contains the Chassis Configuration Table, which displays the current physical configuration of the chassis. A chassis is defined as containing a number of physical entities, each entity having some position that distinguishes it from other potentially similar entities. Examples of entities are cards, power supplies etc.

Note that this table only contains information on a location that is currently occupied by some entity.

Double-click an entry to access the Chassis Configuration Entry view containing information on one entry.

Type

A chassis contains a number of physical entities such as power supplies and cards, each residing at a specific location within the chassis. These locations can be specialised to different purposes. Currently there are four types of location defined: Module, Power-supply, Fan, and Backplane

This list can be extended for a particular application:

- **Module:** This is a generic category. The information displayed in this field is often the purpose of the device. For this device the module type is Stackable.
- **Power-supply:** This location can only hold a power supply.
- **Fan:** This location can only hold a fan.
- **Backplane:** This location can only hold a backplane.

Loc

Displays the instance number of a specific module type. See above for more on model type.

System Object ID

Displays the Object ID of the entity at this location.

Service Type

This object identifies what kind of entity is present at this location. The value represents a category of entity, for example '802.3 Repeater' or 'power supply'. It does not identify the specific kind of entity within that category, for this refer to the entity type.

Displays the category type of the entity at this location. [Table 5-13](#) presents the generic module types and their category types.

Table 5-13.

Service Type Categories

Generic Type	Category Types
Module	dumb8023Repeater ieee8023Repeater ieee8025MauModule ieee8025Ringbuilder fddiConcentrator managementModule displayPanel standardBridge bridgePerPort terminalServer remoteBridge fddiMIC notAllocated fddiLinkSwitch
Power-supply	powerSupply
Fan	fan
Backplane	standardBackplane extendedBackplane

Entity

This uniquely identifies a specific physical entity based on the category type displayed under Service Type. For example the Service Type may indicate '802.3 Repeater' while the Entity type then specifies this card as a 12 port UTP card. Below are the values currently allocated:

Table 5-14. Chassis Configuration View Type Values

Category Types	Specific Types
smart8023Repeater	4 Port RLC Coax (ECS Variant) 8 Port UTP (ECS Variant) 4 Port Fibre (ECS Variant) 8 Port STP (ECS Variant) 4 Port Fanout (ECS Variant) 12 Port UTP (ECS Variant) 12 Port STP (ECS Variant) 12 Port Secure UTP (ECS Variant) 12 Port Secure STP (ECS Variant) 6 Port Fibre (ECS Variant) 4 Port Coax (ECS Variant) 6 Port Resilient Fibre (ECS Variant) 12 Port UTP, RJ45 Connector 12 Port UTP, RJ45 Connector (Expandable) 13 Port UTP, Telco + Module 24 Port UTP, 2xTelco 6 Port fibre, ST Connector (Expandable) 6 Port fibre, SMA Connector (Expandable) 6 Port Coax (Expandable) 4 Port Fanout
ieee8025MauModule	12 Port UTP, RJ45 Connector 12 Port STP, RJ45 Connector 12 Port UTP/STP Advanced MAU
ieee8025Ringbuilder	Ring Builder. STP Rin/Rout. RJ45 Connectors Ring Builder. Fiber (ST) and STP Rin/Rout.
fddiConcentrator	FDDI RingBuilder
managementModule	Standard Management Module Enhanced Management Module
standardBackplane	Standard Backplane
extendedBackplane	High Speed Backplane
displayPanel	First release front panel
fan	Standard Fan Tray
powerSupply	Standard Power Supply
standardBridge	2 Port Local Token Ring Bridge 4 Port Local Ethernet Bridge

Table 5-14. Chassis Configuration View Type Values (Continued)

Category Types	Specific Types
fddiMIC	FDDI 4 Port MIC FDDI 6 Port UTP/STP
fddiLinkSwitch	LinkSwitch

HwVersion

Displays the hardware version number.

SwVersion

Displays the software version number. If an entity has no software, this will be None.

Service

Every chassis is considered to be a collection of services built from the resources of one or more physical entities within the rack. For example, a repeater may be implemented using 2 cards, each with 12 UTP ports, or a power supply by 3 modular power supply entities. The service table contains an entry for each service present. This value is an index into the service table. A specific card can be determined from the service table and this value.

Entity Name

Displays a description of the entity at this location.

Power

Displays a power consumption requirement for the entity in Watts. Power supplies will display a negative consumption.

Note that a power supply may be overloaded even if this value is within the spec of the power supplies.

Ports

Displays the number of physical, external ports this entity has. Note this value only applies to entities that communicate with the management card. For other cards a value of -1 indicates the value is unknown. A value of zero indicates that this entity has no external ports.

State

Each entity in the chassis has a basic state independent of what function that entity performs within the chassis. Possible values are unknown, initialising, operational, and failure. If the agent cannot determine the state of a particular entity then the value of this object is unknown.

Physical Limits View

This view contains the Physical Limits Table, which describes the chassis as a number of physical entities, each having a physical location. This table defines the number of locations of each type that exist within the chassis.

Type

Displays the reference number of the type of location. Possible types are module, power-supply, fan, backplane, and 5.

Limit

Displays the number of locations in this chassis that exist for a specified Type. This is interpreted as the 'number of power supplies' or 'number of slots' etc.

Chassis Service View

This view contains the Service Table, which contains an entry for each service offered by this device and provides a name for that service type.

Note that every entry in this table must belong to a service.

Id

Displays the index number for this service. There are several conventions used to allocate a service Id:

- If a card forms a service by itself the service id is the same as the slot position of that card within the rack.
- If a service is constructed using one of the backplane 802.3 facilities, the service id is 101, 102, or 103 for the three backplane 802.3 paths.
- If a service is a token ring fragment, the service id is 200 plus the ring fragment id. If Ring Builder builds a ring from MAU cards with ring fragment id 7, the corresponding service will be 207.

Name

This is a text string describing the service at a particular Service Index.

Service Address View

This view contains the Address Table.

A chassis contains a number of services, each implemented by one or more cards. A number of services are 'intelligent' in that they communicate with the management station through their own communications stack. This table allows you to determine the addresses of a particular service. The table will only have entries for intelligent cards.

The table displays an Id and an Index value to distinguish between multiple potential addresses for a service.

This table includes entries for the management card itself. The management card entries contain the physical address of the currently active MAC and the IP address of the SNMP stack.

Id

Displays the id of the service for which this row provides information.

Index

Displays an Index number used to distinguish between multiple addresses for a service in the chassis.

Addr Type

Displays the type for each of the services in the chassis. Note that ieee8023Address and ieee8025Address types differ from each other in the bit ordering of the physical address. Possible values are ieee8023address, ieee8025address, ipaddress, slipaddress.

MAC Address

The MAC address of the service.

IP Address

The IP address of the service.

Facility Table View

This view contains the Facility Table.

The chassis can simultaneously maintain a number of different sub-networks, such as independent repeaters, or a number of Token Rings. These fundamental services are referred to as facilities. Each card in the chassis can either provide or be connected to one or more of these facilities. This table provides a means of determining and changing the facilities used by a particular card.

The number of entries per card depends on the type of card. For example an 802.3 repeater card can be expected to have a single entry while an 'n' port bridge would have 'n'. The number of entries for a particular card can not be changed.

Slot

Displays the card on which a service resides.

Index

Each card may have multiple entries in the Facility Table. This a number uniquely identifying each of these entries.

It is a convention that the value of this index maps as closely as possible to the physical configuration of the entity represented. For example if a bridge has

ports numbered 1, 2, 3 and 4 and all are switchable then this table will have four entries for that entity indexed 1, 2, 3 and 4. The entry with index 1 represents port 1 etc. Similarly if a bridge had two ports numbered, for some reason, 234 and 456 then these values would be used as the index to this table.

Type

Displays the type of facility for this entry. Possible values include ieee8023, ieee8025, fddi, ieee8025rb, ieee8023v3, atm, and smds.

Connection

Displays the current assignment of this attachment point in this card. The legal values of this object depends on the type card. Writing an illegal value to this object will cause an error. [Table 5-15](#) identifies the possible values, depending on card type. Each card type will support a subset of these values.

Table 5-15. Card Type Assignment Values

Type	Possible Values
IEEE8023	0: Isolated (This interface is not connected to anything). 1,2,3: One of the backplane 802.3 networks.
IEEE8025	0: Isolated 1..0x7f: A ring number. This must match the value of one of the ring builder cards or the request will be rejected.
FDDI	Unknown at the moment. Probably similar to IEEE8025

Values greater than 0x7f are reserved values for a particular card, the meaning of which depends on the card type. For example, a multiport 802.3 bridge is capable of bridging between three sources and having two external 802.3 connections. Such a bridge would have three entries in the facility table, one per bridge source, each of which could be assigned to one of the backplane 802.3 paths or to one of the external connections. In this case the possible values for each table entry would be:

0x00	Not used (isolated)
0x01, 0x02, 0x03	One of the backplanes
0x81, 0x82	One of the external connections.

The chassis agent will not allow two different entries in this table for the same card to be assigned to the same facility.

Serial I/f Application Configuration

The Serial Interface application supports the V.24 Port Config view, and serves as the anchor point for the Multi Repeater application, the Port Security application, and the Mrm Resilience application. The model type for this application is 3ComserIfApp.

V.24 Port Config View

This view contains the V.24 Port Config Table and, beneath it, the Slip Port field.

Slip Port

The serial port which SLIP can use to send and receive packets. If this field has a value of 0xffff, then SLIP can not send or receive packets. You can update this field.

V.24 Port Config Table

This table describes the configuration parameters for the V.24 ports. Double-clicking an entry accesses the V.24 Configuration Table Entry view in which you can update several fields for the selected entry.

Id

Displays the Port ID and index for this table.

Conn

Displays whether the port is connected Local to a terminal or terminal emulator, or Remote to a modem. If it is Local no interface signals need to be asserted unless by other management options. If it is Remote, at least DSR is required. You can update this field using the V.24 Configuration Table view.

Auto Con

Displays Enabled if the next four parameter values are determined automatically from an initial character sequence entered by the user. Displays Disabled if the parameter values are entered explicitly.

Speed

Displays the receive and transmit speed of the port if AutoConfig is disabled. Different speeds for transmit and receive are not possible. You can update this field using the V.24 Configuration Table view.

Char Size

Displays the character size, either 7 or 8, if AutoConfig is disabled. You can update this field using the V.24 Configuration Table view.

Multi Repeater

Stop Bits

Displays the number of stop bits, either 1, 1.5, or 2, if AutoConfig is disabled. You can update this field using the V.24 Configuration Table view.

Parity

Displays the parity option to use if AutoConfig is disabled. You can update this field using the V.24 Configuration Table view.

DSR Cont

This field only applies to Local connection types. It displays whether DSR needs to be asserted for a local connection to be made and if the connection needs to be released if the DSR is seen deasserted. You can update this field using the V.24 Configuration Table view.

DCD Cont

This field only applies to Local connection types. It displays whether DCD needs to be asserted for a local connection to be made and if the connection needs to be released if the DCD is seen deasserted. You can update this field using the V.24 Configuration Table view.

Flow Cont

Displays the flow control protocol to be used. You can update this field using the V.24 Configuration Table view.

Update

Set this field to Change using the V.24 Configuration Table Entry view to force the port to update its parameters.

Multi Repeater

This application provides the Multi Repeater Configuration view, from which you can access both the Multi Repeater Port Configuration view and the Multi Repeater Card Entry view. The model type for this application is 3CommultiApp2.

Multi Repeater Configuration View

This view contains the Card Table. Double-clicking the ID or Slot of an entry displays the Multi Repeater Port Configuration view described in this section. Double-clicking one of the other fields displays the Multi Repeater Card Entry view for that entry, which allows you to set the Test field.

ID

Displays the Service ID. It identifies one of the repeaters within the chassis as the target of a request.

Slot

Displays the slot occupied by the card.

Port Capacity

Displays the number of ports that can be contained within the group. This ranges from 1 to 1024. This will usually be the number of ports on a module, card, or board. Port numbers correspond to the numbers marked on the physical entity.

Card Test

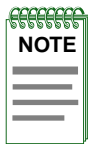
This field is used to test the operation of the card. Using the Multi Repeater Card Entry view to set this field to Test causes the card to perform a disruptive test. The result of this test, either Passed or Failed, is displayed upon completion of the test.

Disable On Boot Ports

Displays the ports to be disabled on power up or reset. They are determined from a hardware strap that can not be changed via software. The value in the field is a mask containing a single bit for each portion the card. Port 1 is represented by bit 0 and so on. Ports represented by a zero bit are disabled. This is useful for setting up resilient pairs.

MDI Enable

Displays either MDIEnabled or MDIDisabled. 10Base-T line cards are usually configured as MDI Disabled to link to an external network device (internal crossover). Port 1 may be configured MDI Enabled to link to another 10Base-T card with no internal crossover.



ECS line cards show a value of Unknown because the configuration can not be accessed via the management interface.

Multi Repeater Port Configuration View

This view contains the Port Info Table and the Port Config Table. Access this view by double-clicking the ID or Slot fields in the Card Table from the Multi Repeater Configuration view.



Double-clicking an entry in either view displays the Multi Repeater Port Entry view.

In order for Port Resolution to work during AutoDiscovery, the EST filter, if present, should be set to Forward MAC or Forward ALL on all ports you want port resolution for.

Port Info Table

This table contains the following:

Multi Repeater

ID

Displays the repeater for which this entry contains information.

Slot

Displays the card slot on which this port resides.

Index

Displays the index number for this service.

Interface

Displays the type of electrical interface made available for this port. It does not specify what the actual medium to the End Station is.

Connector

Displays the type of physical connector on the port. This is not the media. For example, UTP may be connected to the port with either an RJ-45 or a Telco connector.

AutoPartitioned

Displays whether the port is currently partitioned by the repeater's auto-partition protection. For more information on port partitioning, refer to Section 9 in the IEEE 802.3 Standard.

Link

Displays whether there is a signal on this port. This field applies equally to fiber and copper connections and is correct irrespective of the Admin state in the Port Config Table or the AutoPartitioned field.

Boot

Displays the default state for this repeater upon a reset. Possible values are Enabled and Disabled.

Security

Displays whether security is an available feature on this port. Only ports with security enabled have an entry in the Repeater Security Table. Security is not implemented in the current release.

Module

Displays whether the port is a modular port or not.

Function

Displays the function of the port. Possible values are: Unknown, Repeater, and Bridge.

Port Config Table

This table includes the following fields:

ID/Slot/Index

Same as in the Port Info Table.

Admin

Allows you to enable or disable a port. Once disabled, a port must be explicitly enabled to restore operation. A port which is already set to be disabled when power is lost or when a reset is performed will remain disabled when normal operation resumes. This field takes precedence over Auto-Partition and functionally operates between the auto-partition mechanism and the AUI/PMA.

In effect, when a port is disabled, the Auto Partition State is frozen until the port is next enabled. When the port becomes enabled, the Auto Partition State is set to Not Auto Partitioned, regardless of its pre-disabling state.

Part Event

This field displays whether a trap should be sent if the port partition changes state.

Link Event

This field displays whether a trap should be sent if the link state changes.

Link Pulse

This field determines if link pulse generating and monitoring is Enabled for a 10Base-T port or not. Enabled is the default. For other ports, this field should have a value of NotApplicable.

DUD Action

The action taken when an unauthorized device is detected. Possible values are: NoAction, Notify, Disconnect, and Unknown.

EST Filter

Displays whether address information is extracted from packets received on a port and forwarded to the End Station database and, if it is, what address information is extracted.

It is recommended that this attribute be disabled for inter-repeater links to prevent the database being filled with remote information. To disable this feature for all address types set this to ForwardNone.

Port Security

This application provides access to the the Port Security View. The model for this application is 3ComSecPortApp.

Port Security View

This view contains the Port Security Table, the Port Address Table, and an Add Entry button.

Port Security Table

This table displays the security status of each port. A port can have a number of authorized MAC addresses, which are displayed in the Port Address Table.

Double-click any entry to edit information for that row.

Slot

Displays the unit on which a given port resides.

Port

Displays the number of the port in question.

Mode

Displays the learning and security modes of the port. Possible values are No Restrictions, Continuous Learning, Auto Learn, and Secure. No Restrictions disables all learning and security. Continuous Learning means that addresses are learned continually. If more addresses are learned than are permitted on the port, the older entries will be aged out. Auto Learn deletes all addresses for this port, learns addresses up to the number permitted, then sets Port Mode to secure. Secure disables learning.

When in a learning mode, Num Addr displays the maximum number of addresses that can be learned on the port. This can be set by the user.

A trap is sent whenever a station has been learned, and a different trap is sent whenever a packet is received from an unauthorized station.

Need To Know

Displays the way frames are to be forwarded to this port. [Table 5-16](#) shows possible values and their meanings.

Table 5-16. Port Security Need To Know Values

Value	Meaning
Not Available	Need to know is not available. This is not changeable.
Disabled	No restrictions are in place and all frames get sent.
Need To Know Only	Frames are restricted to those addressed to authorized devices.
Need To Know With Broadcast Allowed	Frames are restricted to those addressed to authorized devices and broadcast frames.
Need To Know With Multicast Allowed	Frames are restricted to those addressed to authorized devices. broadcast and multicast frames
Permanent Need To Know Only	Frames are restricted to those addressed to authorized devices. This is not changeable.

Table 5-16. Port Security Need To Know Values

Value	Meaning
Permanent Need To Know With Broadcast Allowed	Frames are restricted to those addressed to authorized devices and broadcast frames. This is not changeable.
Permanent Need To Know With Multicast Allowed	Frames are restricted to those addressed to authorized devices, broadcast and multicast frames This is not changeable.

Intr Action

Displays the action taken if an unauthorized device transmits on this port.
Possible values are Not Available, No Action, and Disable Port.

Num Addr

Displays the maximum number of addresses that the port can learn or store.
Reducing this number may cause some addresses to be deleted. This value is set by the user and cannot be automatically changed by the agent. This value must be less than or equal to Max Addr.

Num Addr Stored

Displays the number of addresses that are currently in the Port Address Table for this port. If this object has the same value as Num Addr, no more addresses can be authorized on this port. This value must be less than or equal to Num Addr.

Max Addr

Displays the maximum value that Num Addr can be set to. It is dependent on the resources available so may change. If resources are shared between ports this value could increase or decrease as resources are shifted around.

Port Address Table

This table displays the multiple MAC addresses assigned to each port.
Addresses will normally be defined as authorized, and describe the devices which are permitted to transmit and receive on the corresponding port.

Slot

Displays the slot number of the port in question.

Port

Displays the port number of the port in question.

MAC Address

The MAC address of a station assigned to this port.

Row Status

The Status for this entry.

[Table 5-17](#) shows possible values and descriptions.

Table 5-17. Row Status Values

Value	Description
Active	This status can be displayed and set
NotInService	This status can be displayed and set
NotReady	This status can be displayed but not set
Create&Go	Used only when adding entries
Create&Wait	Used only when adding entries
Destroy	Deletes the entry

Mrm Resilience

This application provides access to the Mrm Resilience Table view. The model for this application is 3CommrmResApp.

Mrm Resilience View

This view provides the Mrm Resilience Table and the following buttons:

Flush Table

Setting this field to flush empties the Resilience Table. Once flushed no resilient links are configured. You can now configure new links.

Add Entry

This button opens the Add Resilient Table Entry view. Enter the Instance of the new pair and set the Under Mod field to Under-Mod. This creates an empty entry in the table. Double-click the entry to be able to enter the definition.

StandBy Map Table

This button opens the Mrm Resilience Standby Table.

Mrm Resilience Table

A device can be configured to have a number of “resilient pairs” 802.3 Point-to-Point connections; for example, UTP, that allow two repeaters to be connected together in a resilient configuration. In such a pair, one port is the main port,

the other the standby port. One of these ports is enabled and is the current active port, the other is present in case the active port fails. The device detects a failure and switches ports.

For a resilient pair definition to be valid both ports must be on the same repeater. Also, the standby port must be configured to be “disabled on boot”; that is, it must recover from a power failure in a disabled state to prevent loops in the network.

This table allows creation and deletion of resilient pairs and provides status control and information. The entries are indexed on the repeater number and slot/port location of the main port.

Double-clicking an entry accesses the Mrm Resilience Table Entry View in which you can update the configuration of a resilient pair.

Repeater

Displays the repeater on which both ports in the pair are located.

Main Slot

Displays the slot number of the main port in the pair.

Main Port

Displays the port number of the main port in the pair.

Main State

Displays the state of the main port. [Table 5-18](#) shows possible values and descriptions.

Table 5-18.

Mrm Resilience Main or Standby States

Value	Description
Failed	Loss of signal to the port
OK	Port is capable of carrying traffic but is in the standby state
OKandActive	Port is active

SBY Slot

Displays the slot number of the standby port in the pair. You can update this field using the Mrm Resilience Table Entry view.

SBY Port

Displays the port number of the standby port in the pair. You can update this field using the Mrm Resilience Table Entry view.

SBY State

Displays the state of the main port. [Table 5-18](#) shows possible values and descriptions.

Pair State

Displays the state of the resilient pair. Possible values are Operational and Invalid. When this field is Operational, all of the parameters in the entry are

valid. When this field is Invalid, either not all of the information has been provided, or the resilient pair rules are no longer valid because of a change in the configuration of the device such as moving a card.

Mod State

Displays the Modification State of the resilient pair. You must set the Under Mod field in the Mrm Resilience Table Entry view to a value of Under-Mod before changing the configuration of a pair. The changes are not applied until this field shows the value Stable.

Pair Action

This field is used to change the state of the pair. Setting a value of Create configures the pair using the definitions in the entry. Setting Delete removes the entry from the table and terminates operation of resilience on this pair of ports. The setting TogglePort swaps the currently active port with the standby one if and only if the standby port has a status of OK.

Pair Enable

This field Enables or Disables both ports in the resilient pair.

Mrm Resilience Standby Table

The Mrm Resilience Standby Table is accessed by clicking the Standby Map Table button in the Mrm Resilience view. This is a read-only table which provides shortcut information to allow the translation of a port number to a corresponding main port number. This number can then be used to access the Mrm Resilience Table. Each resilient pair has two entries in the table, one for the main port and one for the standby.

Repeater

Displays the repeater on which the port is located.

Slot

Displays the slot number on which the port is located.

Port

Displays the port number of the port.

Type

Displays the type of the port. Possible values are Main and Standby.

Main Slot

Displays the slot number of the main port in the pair.

Main Port

Displays the port number of the main port in the pair.



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